Export assistance programmes: differences between advanced and emerging economies

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Short Biography

Joana Soqueiro Ribeiro was born on the 13th January 1994 in Figueira da Foz, Portugal. Her academic path started in 2012 in ISCTE Business School, in Lisbon, where she learned the principles of business management and developed a particular interest for international business strategy. After graduating from her Management Bachelor in 2015, Joana enrolled in the International Business Master of the Faculty of Economics of University of Porto to deepen her knowledge in international business and economics.

Joana complemented her academic knowledge with international experiences such as a Summer School programme in South Korea and Erasmus programme in Norway. Her short professional career counts with a summer internship in Caixa Económica Montepio Geral in Portugal and a 9-month internship at the Organisation for Economic Cooperation and Development (OECD) in Paris, which was conducted throughout the second year of Masters in University of Porto.

At the moment, Joana is in the search for an experience in the labour market in which she can explore an international environment while applying her academic business knowledge.

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Abstract

Firms can face several obstacles when trying to initiate their export process and the use of export assistance programmes (EAP) can provide an easier and faster establishment in the international trade picture. Although EAP are an extensive studied topic in the literature, by our knowledge, there is no study that compares EAP of advanced economies with EAP of emerging markets. In this way, this paper aims at comparing the content of the EAP of both advanced and emerging economies by collecting data on EAP of 50 countries regarding several types of activities governments can provide to exporters. Additionally, the present work also assesses if there are any differences regarding both groups of countries and which type of activities offered by the government contribute more for the differences in results. Results show that advanced economies offer, on average, more complete EAP than emerging economies. Advanced countries offer more financial support, more informational services, more facilitating activities and more education and training services. There are in fact differences between both groups of countries and the services that contribute the most to these differences are, on one hand, host country information regarding economic and political environment, growing export sectors, customs regulations, latest news and foreign firms and partnerships with universities and, on the other hand, the provision of export credit guarantees, the possibility of firms to go on trade missions, information on the host's country infrastructures and export opportunities and national requirements and documentation needed for the export process. The acknowledgment of these differences is important for national export promotion agencies and policy makers of both groups of countries to understand what type of activities other similar entities are conducting and thus upgrading their offer to firms in order for them to be more and better prepared for international trade interactions, especially emerging economies since they offer less complete EAP.

Keywords: Export assistance programmes, advanced countries, emerging countries.

Resumo

Existem vários obstáculos com os quais as empresas se deparam aquando do início do processo de exportação. O uso de programas de apoio à exportação (PAE) pode mitigar estes obstáculos e permitir uma entrada mais fácil e rápida na esfera do comércio internacional. Apesar dos PAE serem um tópico extensivamente estudado na literatura, pelo nosso conhecimento, não existe nenhum estudo que compare PAE de países desenvolvidos e de países emergentes. Desta forma, este estudo pretende comparar o conteúdo dos PAE de ambos os grupos de países tendo por base dados referentes a 50 países relativos a várias atividades que os governos podem fornecer aos exportadores. Adicionalmente, o presente estudo averigua a existência de diferenças entre países avançados e emergentes e que tipo de atividades oferecidas pelos PAE contribuem mais para estas diferenças. Os resultados indicam que países avançados oferecem, em média, PAE mais completos que países emergentes. Países avançados oferecem mais atividades de suporte financeiro, mais serviços de informação, mais serviços facilitadores e mais atividades de educação e formação. Existem de facto diferenças entre os dois grupos de países e os serviços que mais contribuem para estas diferenças são, por um lado, informação referente ao país de destino alusiva ao ambiente político e económico, setores de exportação em crescimento, regulações alfandegárias, notícias recentes pertinentes e parcerias com universidades, e por outro lado, a provisão de garantias de crédito à exportação, a possibilidade de empresas participarem em missões comerciais ao estrangeiro, informação referente ao país de acolhimento relacionada com infraestruturas e oportunidades de negócio e informação sobre documentação e requisitos nacionais necessários à exportação. O conhecimento destas diferenças é importante para agências de promoção de exportações e decisores políticos de ambos os grupos de países para perceber que tipo de serviços outras entidades semelhantes estão a oferecer às suas empresas e assim melhorar os seus PAE com o objetivo de uma maior e melhor preparação para o comércio internacional, especialmente países emergentes que oferecem PAE menos completos.

Palavras-Chave: Programas de apoio à exportação, países desenvolvidos, países emergentes.

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Abbreviation List

EAP	Export Assistance Programme
FDI	Foreign direct investment
GDP	Gross Domestic Product
IMF	International Monetary Fund
LDA	Linear discriminant analysis
MCA	Multiple correspondence analysis
NA	Non applicable
PC	Principal component
PCA	Principal component analysis
R&D	Research and Development
SMEs	Small and medium enterprises
UK	United Kingdom
UNCTAD	United Nations Cooperation for trade and Development
USA	United States of America
WTO	World Trade Organization

1. Introduction

Trade flows have registered a growing trend since the second half of the 20th Century, with world exports reaching an all-time pick in 2014 with 23,434 billion USD (WTO, 2016). In 2015, exports represented, on average, 35% of Gross Domestic Product (GDP) in emerging markets and 68% in advanced markets (World Bank, 2016a).

The relevance of exports of goods and services to the countries' economy is unquestionable. According to Archer and Maser (1989) (cfr. Leonidou *et al*., 2011, p.2), exports contribute to "*increase employment opportunities for local people, generate foreign exchange to finance imports, enrich public funds with additional tax revenues, create backward and forward linkages in the economy, and achieve higher economic growth and living standards*". Therefore, countries should enhance their exports in order to maximise the benefits of international trade. Along with Czinkota and Ronkainen (2007) exporting is also traditionally the most popular approach to enter new markets abroad, mainly because it does not require as many resources as other entry modes, it involves lower risks and allows for bigger strategic and structural flexibility.

Firms can face several obstacles when trying to initiate their exports process and the use of export assistance programmes (EAP) can facilitate it by providing support to potential exporting firms. For the last 20 years, governments have been increasingly investing, in number and value, in these EAP (Freixanet, 2012).

With the increase of importance of the EAP in governments' trade policies over the years, these programmes have also been gaining importance in the academic field and are currently an extensively studied topic in literature. There are various papers, mainly focused on advanced countries, which study the impact of the EAP on the performance of firms, the effectiveness of the programmes, its awareness, usefulness and usage, among others. However, there are a few studies that compare EAP between countries: Seringhaus (1986) compared the usage of EAP in Australia and Canada; Seringhaus and Botschen (1991) compared the usefulness of EAP in Austria and Canada; Crick and Czinkota (1995) studied the EAP needs of American and British firms regarding their clients' perspectives; Lederman *et al.* (2015) identified the EAP instruments that affect export performance in 7 emerging countries (Argentina, Bolivia, Chile, Colombia, Ecuador, Peru and Uruguay); and Kanda *et al.* (2016) studied EAP and environmental technology

in eight advanced countries (Austria, Denmark, Germany, Finland, Japan, Norway, Sweden and USA). Additionally, for our knowledge, there is no research on the comparison of EAP of a large number of countries or comparing advanced and emerging economies. In this way, this paper aims at not only to compare the content of EAP between countries but also between advanced economies and emerging markets. This research might lead to interesting results given the increasing importance of emerging markets over the years in the international trade stages. According to the IMF (2016), emerging markets accounted for almost 60% of world GDP in 2016, up from nearly 30% only 10 years ago, and have contributed to more than 80% of global growth since the financial crisis in 2008. On the other hand, advanced economies still play a dominant role in international trade accounting for 57% of world merchandise exports (World Bank, 2016b). Given the different experiences in international trade and the different needs of the advanced or emerging exporting firms, one could conjecture that the EAP that governments from both advanced and emerging economies provide are different. Therefore, the research question is the following: Does the content of export assistance programmes differ between advanced and emerging markets?

Overall, 50 countries will be studied in this paper: 25 advanced economies and 25 emerging countries. These countries' EAP will be meticulously analysed so that it is possible to compare them and data regarding their support to firms will be retrieved from national export promotion agencies' websites. Through the analysis of this data, we should be able to identify which group of countries have more complete EAP, i.e. offer more services to firms and if there are any patterns in the type of support they provide to firms. To truly understand these questions, we set up the following objectives:

- Compare the overall EAP content and specific activities and assess which group of countries offer the most complete programmes;
- Statistically assess if both groups of countries are different and which activities contribute for this difference.

This paper can be useful to better define adequate EAP and to provide a very complete overview of all the support activities governments can provide to domestic firms in order to increase the exports of the country.

This paper is divided into four sections apart from this introduction. Section 2 presents a literature review that provides definitions of key concepts of the paper such as EAP and its types and objectives and a detailed analysis of past and recent literature. Section 3 provides the methodology that will serve as the foundation for the analysis and results. Section 4 presents the empirical results that include a data overview of the provided export support services and three types of analyses for assessing the differences between advanced and emerging countries and respective results. Section 5 provides the conclusions, as well as limitations and possible future research on the topic.

2. Literature Review on Export Assistance Programmes

In this chapter, we clarify the concept of EAP and its different types (section 2.1), objectives (section 2.2) and past research on the topic (section 2.3).

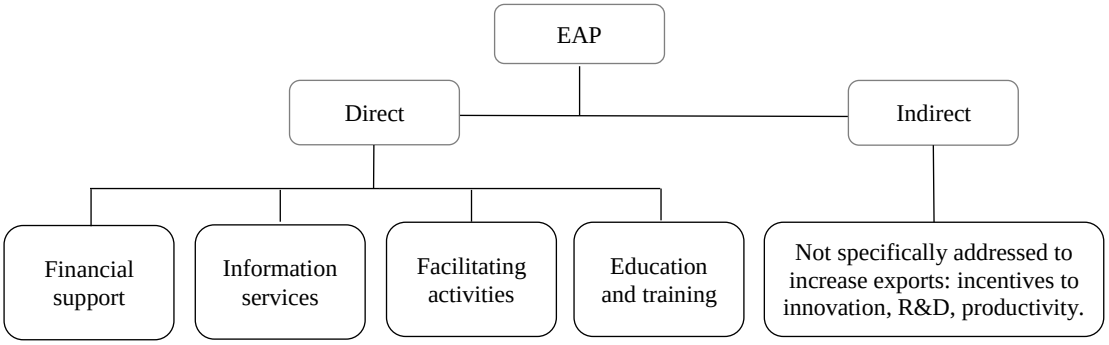
2.1 Definition and types of Export Assistance Programmes

As Gencturk (2010, p. 1) states: "*EAP refers to all public measures designed to encourage and assist exporting activities of individual firms and/or specific domestic industries*". These programmes, or any other kind of assistance provided by the government, are restricted and supervised by the World Trade Organization (WTO) (Gencturk, 2010).

EAP can be classified as indirect or direct (Figure 1). Indirect services include support from the government that is not specifically addressed to increase exports but to engender positive spillovers for the general export environment such as innovation, research and development (R&D), and productivity assistance programmes as well as general tax or investment incentive policies. Direct services include all programmes which objective is to directly enhance exports and competitiveness (Gencturk, 2010).

Concerning direct EAP, according to Hollensen (2007), they can be divided in three groups: financial support, information services and export facilitating activities. Later, Leonidou *et al.* (2011) added one more EAP type to the literature, and education and training-related programmes become the fourth type of EAP.

Figure 1: Types of EAP



Source: own elaboration based on Hollensen (2007) and Leonidou *et al.* (2011)

As studied by Gencturk (2010), financial support includes the grant of subsidies, tax benefits, such as low export-profit rates, long term tax holidays for profits and deferred taxes on earnings and incentives regarding credit policy and insurance programmes to cover capital needs. Some commercial and political risks associated with exports are also covered by credit insurances and guarantees.

Albaum and Duerr (2008) define information service as all of the following activities provided by government officials: available data on several countries, reports on foreign firms, specific export opportunities, information on aggregate transactions, list of potential foreign buyers, agents and distributors, foreign credit information, foreign governments' regulations, information on export procedures and techniques.

Regarding export facilitating activities, Albaum and Duerr (2008) provide again a very clear definition of the type of activities that are here included: trade related offices abroad or embassies or consulates, government- sponsored trade fairs and exhibitions, sponsoring trade missions and operation of permanent trade centres abroad.

Lastly, according to Leonidou *et al.* (2011, p. 13), education and training-related programmes comprise "*the organisation of export seminars and conferences, training programmes specialising in exporting, training on export documentation, provision of counselling advice on export business and foreign language support*".

2.2 Objectives of Export Assistance Programmes

Although EAP are specific to the economic, legal, political and cultural framework of each country, the general objective can be considered transversal to every nation: improve the performance of individual firms in foreign markets (Leonidou *et al.*, 2011). To achieve this objective, EAP are designed to reduce the export barriers firms face in foreign markets. These barriers refer to "*the attitudinal, structural, operational, and other constraints that hinder the firm's ability to initiate, develop, or sustain international operations*" (Leonidou, 1995, p. 31).

Leonidou (2004) presents a very clear definition of all the internal and external barriers that domestic firms face when trying to expand abroad and that EAP aim at minimize. The author defines internal barriers as the obstacles that prevent the firms' ability to start, develop, or sustain their activity in other countries associated with organizational

resources/capabilities and the firm's approach to exports. The author classifies internal barriers as informational, functional and marketing. Concerning the external barriers, Leonidou (2004) defines them as the ones that emerge from the environment where the firm operates. The author classifies external barriers as procedural, governmental, task and environmental.

Later, Arteaga-Ortiz and Fernández-Ortiz (2010) define four types of export barriers: knowledge, resources, procedures and exogenous. Knowledge, procedures and exogenous barriers correspond to the already proposed barriers by Leonidou (2004): knowledge barriers correspond to both informational and functional barriers; procedures barriers correspond to marketing, procedural and task barriers; and exogenous barriers correspond to the environmental barriers. Distinct from Leonidou (2004), Arteaga-Ortiz and Fernández-Ortiz (2010) emphasize resources barriers as another type of exports barriers that we will include in this paper. The authors define resources barriers as the lack of financial resources that firms might face when initiating the export process. Although the authors do not make the distinction between internal and external barriers, for this to be in line with Leonidou (2004) contribution, we will consider resources barriers as internal barriers once they are associated with the organizational resources/capabilities of the firm.

With respect to the internal barriers, Table 1 presents a summary of the classification of type of barrier, some specific barriers associated with each category of barrier and which type of EAP can help firms overcome these barriers.

According to Leonidou (2004, p. 285), "*Informational barriers refer to problems in identifying, selecting, and contacting international markets due to information inefficiencies*." These barriers can be mitigated through information services for the lack of knowledge about the foreign market and facilitating activities for contacting the interested people and entities abroad provided by EAP.

Table 1: Internal export barriers and respective useful EAP

Type of barrier	Some specific barriers		Useful EAP
Informational	Limited information and data to analyse foreign markets Identifying foreign business opportunities Inability to contact overseas customers		Information services and facilitating activities
Functional	Inadequate/untrained personnel for exporting		Education and training
Marketing	Product	Development and adaptation of new products Satisfying export standards and requirements Provide technical/after-sales service	Financial support, information services, facilitating activities and education and training
	Price	Development of price strategy Difficulty in matching competitors' prices Granting credit facilities to foreign customers	
	Distribution	Accessing distribution channels Finding and controlling foreign agents Difficulty in supplying inventory abroad	
	Logistics	Finding and maintaining warehouses abroad Costly transportation and insurance	
	Promotion	Adjusting export promotional activities	
Resources	High financial costs of international operations Insufficient production capacity Local banks with inadequate international expertise		Financial support and informational services

Source: Leonidou (2004, p. 283) and Arteaga-Ortiz and Fernández-Ortiz (2010, p. 404)

Functional barriers deal with the existing inefficiencies associated with the firm's functions regarding exports, such as resources and human resources (Leonidou, 2004). Barriers associated with resources are more in depth examined in later research (Arteaga-Ortiz and Fernández-Ortiz, 2010) so for functional barriers in this paper we will just account for the human resources barriers proposed by Leonidou (2004). These barriers can be overcome through education and training and information services.

As stated by Leonidou (2004, p. 288), "*Marketing barriers deal essentially with the firm's product, pricing, distribution, logistics, and promotional activities abroad*". The importance of these barriers can be diminished by the use of all types of EAP.

Finally, with regard to the resources barriers mentioned by Arteaga-Ortiz and Fernández-Ortiz (2010), these barriers can be weakened by the use of financial support and informational services.

Concerning the external export barriers, Table 2 presents a summary of the classification of these barriers, some specific barriers associated with each type of barrier and which type of EAP can help firms overcome these barriers.

Table 2: External export barriers and respective useful EPA

Type of barrier	Some specific barriers		Useful EAP
Procedural	Unfamiliar exporting procedures Communication problems with foreign customers Slow collection of payments abroad		Financial support and information services
Governmental	Lack of home government support Unfavourable home rules/legislations		Facilitating Activities
Environmental	Economic	Poor economic conditions abroad Foreign currency exchange risks	Financial support, information services, facilitating activities and education and training
	Politico-Legal	Political instability Strict foreign rules and regulations High tariff and nontariff barriers	
	Sociocultural	Different foreign business practises Different sociocultural practices Different verbal and nonverbal languages	

Source: Leonidou (2004, p. 283)

According to the author (Leonidou, 2004), procedural barriers refer to the unfamiliarity with operational aspects of interactions with foreign customers. This includes the lack of knowledge concerning procedures and techniques, collection of payments and communication strategies. These barriers can be overcomed by informational EAP and financial EAP, regarding coverage of capital needs if the collection of payments endangers the financial stability of the firm.

Governmental barriers are related to activities, or the lack of them, conducted by the home country governments regarding to its domestic firms (Leonidou, 2004). The author exemplifies governmental barriers with two problematic areas: (i) the limited interest revealed by the domestic government in assisting potential exporting firms and (ii) the constrained role of the regulatory framework on export practices. These barriers can be mitigated through facilitating activities namely with the institutional support from trade related offices abroad, embassies or consulates.

Concerning task barriers, as stated by Leonidou (2004, p. 293) they "*focus on the firm's customers and competitors in foreign markets, which can have an immediate effect on its export operations"*. These barriers can be diminished through informational services, specifically information about competitors, and education and training for the relationship with customers, for example regarding language skills.

Finally, Leonidou (2004) refers to environmental barriers as the ones related mainly to the economic, political-legal and sociocultural surrounding of the firms abroad. These barriers, as they are so broad and general, could be mitigated by any type of EAP.

2.3 Empirical studies on Export Assistance Programmes

Academics have studied EAP over many years with the first studies being published in early 1960s (Leonidou *et al.*, 2011). Today, the topic is extensively investigated and given the high number of articles published, we will proceed to the literature review by separating past and recent articles into different categories and reach conclusions accordingly. We will base the category definition on two authors: Freixanet (2012) and Leonidou *et al.* (2011).

Freixanet (2012) analyses past research dividing it into four categories: (i) "Studies on theoretical development and methodology" that analyse the role of EAP in economic activity and provide methodological recommendations for the development of empirical studies; (ii) "Studies based on macroeconomic evaluations" that aim at studying the overall economic impact of EAP in one or more countries; (iii) "Studies which evaluate specific programmes" that focus on the impact of one of the programmes' activities on the firms export performance (e.g. the study of the participation of exporting firms in international trade fairs); and (iv) "Studies which evaluate EAP collectively" that study the impact of one or more EAP activities in firms' export performance of one or more countries (e.g. the impact of financial support and informational services in Canadian firms).

According to Leonidou *et al.* (2011), in general, EAP have been historically studied from two main perspectives: the provider and the receiver. The authors state that studies that follow a provider's approach focus on the content of the specific programmes that governmental entities offer to firms. As for the receiver's approach, this includes studies that focus on EAP from the individual firms' perspective.

Past studies can also be categorized into several groups. We will proceed to this categorization by adapting Leonidou *et al.* (2011) research on these categorisation groups. Therefore, in this paper we will count with nine groups of article classification, as evidenced on Table 3.

Table 3: EAP literature categorised by groups

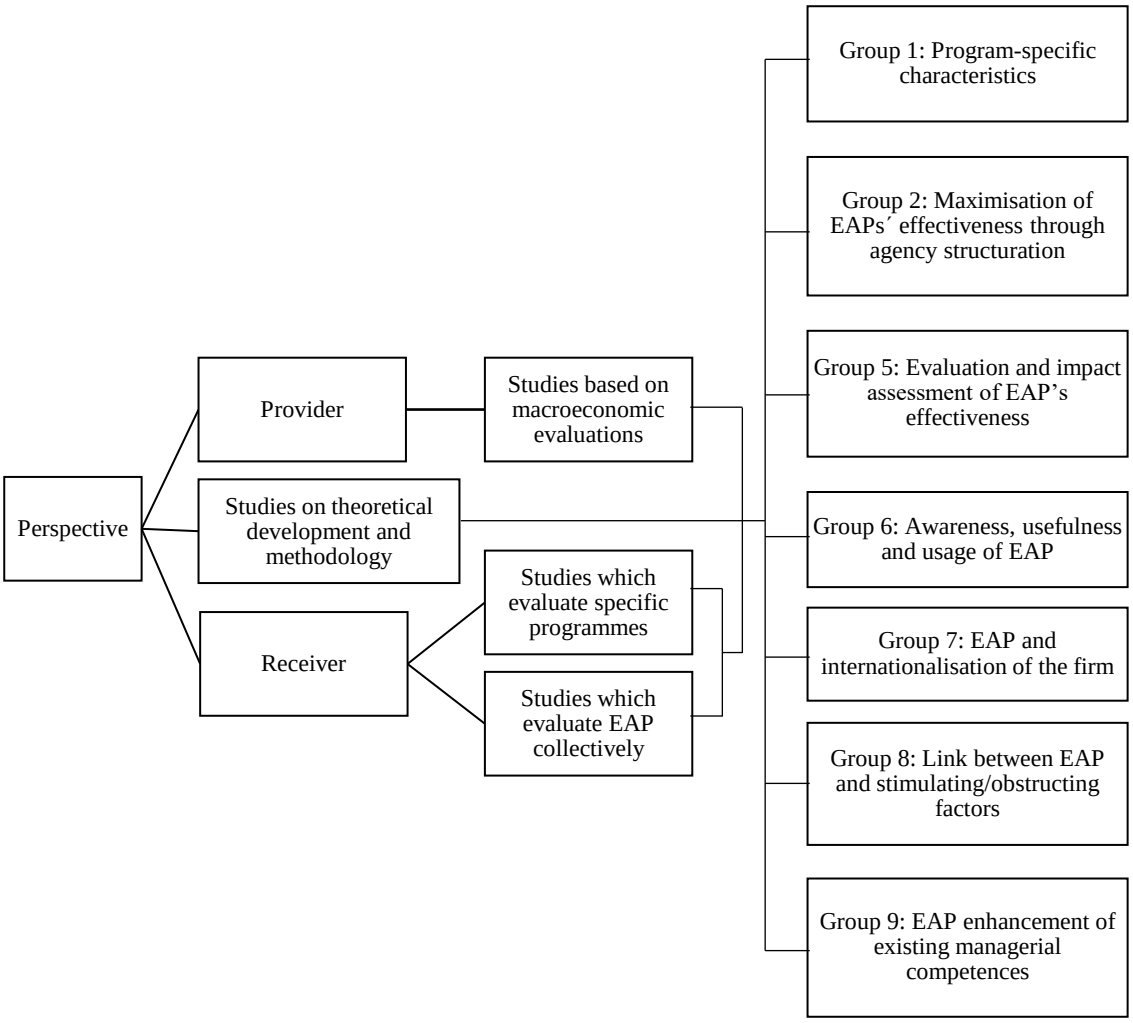
Group	Designation	Characteristics
1	Program-specific characteristics	Includes articles that focus on theoretical frameworks and mechanisms to formulate EAP.
2	Maximisation of EAP´s effectiveness through agency structuration	Study of measures that EAP's providers should conduct for a more effective use of EAP.
3	Targeting firms for EAP	Study of measures that governments should adopt to target the EAP's beneficiary firms.
4	Communication availability for firms eager to participate in the EAP	Focus on the communication and visibility of EAP to firms that wish to use them.
5	Evaluation and impact assessment of EAP's effectiveness	Includes articles that explore the impact of EAP on the firms or countries' export performance and assesses if EAP are beneficial or not for those who use it.
6	Awareness, usefulness and usage of EAP	Comprises articles that deal with the awareness, usefulness and usage of EAP within the firm or country and study the effectiveness of the programmes, the areas of the business where the EAP are applied and the adjustment of the EAP to the firms' specific needs.
7	EAP and internationalisation of the firm	Includes articles focused on EAP applied to the specific stage of internationalisation that the firm achieved so far, i.e. for each stage of internationalisation (non-exporter, sporadic, regular or advanced exporter) the government applies a different EAP.
8	Link between EAPs and stimulating/ obstructing factors	This group emphasizes the link between EAP and factors that stimulate or obstruct the firm's efforts to start and continuously grow its export operations such as possession of unique products or inadequate overseas representation, respectively.
9	EAP enhancement of existing managerial competences	Includes articles that explore the government as "change agent" in the sense that EPA enhance organisational and/or managerial competences.

Source: Adapted from Leonidou *et al.* (2011)

Therefore, combining the analysis of the two authors, we will have four category classification for the articles (Freixanet, 2012) that can be integrated in the provider, receiver or any perspective (Leonidou *et al*., 2011). "Studies on theoretical development and methodology" do not belong either to the provider or receiver perspective because they propose new theoretical models and do not focus on governments or firms. "Studies based on macroeconomic evaluations" are studies focused on the providers' perspective because they focus on the EAP from a general governmental perspective. As the "Studies which evaluate specific programmes" and the "Studies which evaluate EAP collectively" focus on specific firms, they are naturally studying EAP from the receiver perspective. On top of this, all the articles should belong to at least one group (from 1 to 9) or be classified as "other". The present paper should be classified as "Studies based on macroeconomic evaluations" of the provider's perspective under group 1 - program-specific characteristics.

It is important to mention that, after detailed analysis, no study that fits group 3 (targeting firms for EAP) and 4 (communication availability for firms eager to participate in EAP) were found. For this reason, we do not include these groups in our literature classification. Figure 2 presents the four categories, the two perspectives and the seven groups.

Figure 2: EAP literature classification



Source: own elaboration based on Leonidou *et al.* (2011) and Freixanet (2012)

The literature analysis contains two different research approaches. The analysis of articles from 1973 until 2006 was retrieved and adapted from Freixanet (2012) (48 articles in total). The analysis of literature from 2007 to 2016 was conducted analysing the 46 articles published during that period and available in the platform 'Scopus' on the 5th of January 2017, searched with the following key words: "Export Assisting Program", "Export Promotion" and "National Export Incentives". The analysis is organised in the

following way: articles are grouped into tables according to the Freixanet (2012) classification and each table will contain article-specific information regarding the classification of the country studied (if applicable, advanced or emerging), the perspective of the article (if applicable, provider or receiver), the respective group and the main findings of the study. All the articles are ordered by chronological order, from the most recent to the oldest one.

Regarding studies on theoretical development and methodology (do not belong to any perspective), as evidenced on Table 4 authors focused mainly on group 2 (maximisation of EAP´s effectiveness through agency structuration) and group 5 (evaluation and impact assessment of EAP's effectiveness). Past literature emphasizes the need of new frameworks for the assessment of the impact and evaluation of EAP (Gillespie and Riddle, 2004), the implications of trade fairs for marketing management exporting (Seringhaus, 1987) and the relationship between internationalisation phase and usefulness of EAP – the more internationalised firms are, the less they perceive EAP as useful (Czinkota, 1982). Even though the impact of EAP has been studied in the past (Lemaghen, 1987 (cfr. Freixanet, 2012); Seringhaus, 1986; Diamantopoulos *et al.*, 1993), and given the difficulty in measuring it, recent literature continues to focus on the construction of models to measure effectiveness and impact of EAP (Martínez Prats *et al.*, 2015; Czinkota, 2012; González, 2009; Shamsuddoha *et al.*, 2009).

There are also three studies that do not belong to any group and are classified as "other". Kanda *et al.* (2016) presents a study on EAP and environment, Mah (2010) explores EAP context in the WTO and Gillespie and Riddle (2004) study a theoretical review of literature of EAP.

Table 4: Studies on theoretical development and methodology

Group	Author	Country analysed and classification	Main conclusions
Group 1 - Specific characteristics of the programme	Shamsuddoha *et al.* (2009a)	Not specified.	The proposed framework includes a mediated effect in the EAP-firm's export performance relationship, where firm- and management-related variables assume a key-role as mediators.
Group 2: Maximisation of EAP´s effectiveness through agency structuration	Martínez Prats *et al.* (2015)	Mexico - Emerging	The authors provide 14 measures for increasing the effectiveness of the EAP in Tabasco including financial support and the establishment of a one-stop shop.
	Czinkota (2012)	Not specified.	Provision of 7 dimensions that EAP should follow such as clear objectives and reflection of a long term perspective.
	Brezzo and Perkal (1983)*	Uruguay - Emerging	The creation of a system of incentives founded on the firms and industry's needs and on the phase of the internationalization process is needed to increase exports.
Group 5: Evaluation and impact assessment of EAP's effectiveness	Diamantopoulos *et al.* (1993)	Not specified.	The factors that impact the most EAP's evaluation are awareness, attention and expectations.
	Lemaghen (1987) *	UK - Advanced	No conclusion presented**.
	Seringhaus (1986)	Australia and Canada - Advanced	The relationship between the EAP and successful exporting can't be demonstrated. EAP should be studied individually considering the managers' attitudes.
Group 7: EAP and internationalisation of the firm	Seringhaus (1987)	Canada - Advanced	Although trade missions have the potential of becoming useful marketing tools, their usage depends on management orientation.
	Czinkota (1982)	USA - Advanced	Firms in more advanced internationalisation phases perceive EAP less useful.
Several Groups: Group 1, Group 2 and Group 5	González (2009)	Colombia - Emerging	Proposition of measures for maximizing EAP's effectiveness including training and clear set of goals. Also, information services were not sufficient and the EAP's tools do not match the firms' needs.
Other	Kanda *et al.* (2016)	8 countries - Advanced***	EAP that encourage the exports of environmental technology can be classified as financial support, trade mobility, informational services and education and training.
	Mah (2010)	Not specified.	Provision of measures to improve EAP in the context of the WTO for emerging markets such as enhancement of administrative capacity of governments and education regarding exports and attract FDI to these countries.
	Gillespie and Riddle (2004) *	Not specified.	The authors propose methodology to be used and further policy evaluation.

Notes:
* The conclusion of these papers were retrieved from Freixanet (2012).
** Freixanet (2012) did not indicate the findings of this study and we are unable to obtain the full text of the paper. Although we can't present the findings of the study, its contribution is still important regarding group of the article and geographical focus.
*** The 8 countries on the Kanda *et al.* (2016) paper are Austria, Denmark, Germany, Finland, Japan, Norway, Sweden and USA.

Concerning the provider's perspective - studies based on macroeconomic evaluations- (Table 5) authors seem to focus almost exclusively on group 5 (evaluation and impact assessment of EAP's effectiveness) both in past and recent literature, although it is worth mention that only three out of the 16 articles included in this category are from the period 1973-2006, which can lead us to the conclusion that macroeconomic studies of EAP are gaining relevance in recent literature. Some authors, e.g. Li and Shrestha (2013) and Wilkinson *et al.* (2009), claim that communication efforts, promotion actions and trade fairs participation are needed and have a positive impact on the country's exports. Regarding the overall impact of EAP on countries' exports (not just facilitating activities alone), opinions diverge. Some authors defend that EAP have a positive impact on the countries' exports (Janda *et al.*, 2013; Martincus *et al.*, 2011; Martincus and Carballo, 2010c; Rusmevichientong and Kaiser, 2009; Moser *et al.*, 2008), while others disagree arguing that the costs of EAP are too high compared to the benefits (Kinnucan and Cai, 2011) and that the effects and benefits of EAP are not sustainable in the long term (Hiroshi, 1999) (cfr. Freixanet, 2012) and Haque and Kemal (2007).

In this category there are also articles classified as "other" that are worth mention. EAP and entrepreneurship is a non-pre-defined topic that has already some insights such as the positive relation between EAP and entrepreneurial activities (Cocks, 2016; Sraha, 2015). Also, Baltensperger and Herger (2009) study EAP in the context of international trade.

Regarding studies on the receiver's perspective, i.e. individual firms (Table 6), authors from both past and recent literature seem to prefer two groups of focus: group 5 (evaluation and impact assessment of EAP's effectiveness) and group 6 (awareness, usefulness and usage of EAP). Similarly to the previous category, some authors claim that EAP have in fact a positive impact on the firms' exports (Lederman *et al.*, 2015; Van Biesebroeck *et al.*, 2015; Jalali, 2012; Weiss *et al.*, 2011) but, just like in a macro perspective (countries' exports), the effects and benefits of EAP are also not visible in the long term in the micro perspective (firms' exports) (Cadot *et al.*, 2015). Another negative point about EAP is that there seems to be no relationship between export promotion agencies' offices abroad and firms' exports to a certain country (Martin, 1996) (cfr. Freixanet, 2012).

Table 5: Studies based on Macroeconomics evaluations

Group	Author	Country analysed and classification	Main conclusions
Group 5: Evaluation and impact assessment of EAP's effectiveness	Janda *et al.* (2013)	Czech Republic - Advanced	The EAP had a significant positive impact on the growth of exports while controlling for trade costs, political risk and size of the trading economies.
	Li and Shrestha (2013)	China - Emerging	The trade shows organised by CCPIT increase the exports of the country.
	Kinnucan and Cai (2011)	USA - Advanced	When consumer impact of the EAP is considered, United States Department of Agriculture expenditures on nonprice export promotion of farm products are too high compared to the benefits.
	Martincus *et al.* (2011)	Latin America and Caribbean - Emerging	Export promotion institutions help increase bilateral trade along both the intensive and extensive margins.
	Martincus and Carballo (2010c)	Colombia - Emerging	Bundled services including counselling, trade agenda, and trade fairs are more effective than isolated actions such as trade missions and fairs.
	Wilkinson *et al.* (2009)	Not specified.	The participation of SMEs in trade shows is positively associated with increases in the country's exports. Their participation in trade missions is positively associated with export performance in the long term.
	Rusmevichientong and Kaiser (2009)	USA - Advanced	A positive impact of EAP is verified on U.S. rice exports.
	Gil *et al.* (2008)	Spain - Advanced	Having a higher number of export promotion organisations' offices abroad increases trade.
	Moser *et al.* (2008)	Germany - Advanced	EAP are able to foster exports. Political risk has a harmful effect on exports.
	Haque and Kemal (2007)	Pakistan - Emerging	An insignificant long term impact of subsidies and refunds on exports was found. However, in the short term, refunds have a small positive impact.
	Onunkwo and Epperson (2000)*	USA - Advanced	It is necessary to develop more promotion activities focused on European and Asian markets.
	Hiroshi (1999)*	South Korea - Advanced	The only remarkable effects from EAPs are long term.
	Armah and Epperson (1997)*	USA - Advanced	Investment in communication actions is evidently profitable.
Other	Cocks (2016)	UK - Advanced	Entrepreneurship in urban areas is increasingly focusing on exporting.
	Sraha (2015)	Ghana - Emerging	SMEs improve performance through EAP related to education and training and informational services. It also provides knowledge that can become a source of competitive advantage to implement better marketing strategies.
	Baltensperger and Herger (2009)	OECD Countries - Advanced	From 1999 to 2005, using trade credits with plentiful government-guarantees, OECD member countries exported more to unstable low income countries.

Notes:
*The conclusions of these papers were retrieved from Freixanet (2012).
Legend: SMEs – Small and medium enterprises

The participation in trade fairs is again a vivid topic emphasising its positive effect on firms' exports (Brouthers and Wilkinson, 2006; Brouthers and Wilkinson, 2000 (cfr. Freixanet, 2012)).

Literature also claims that smaller firms benefit more from EAP than big ones (Martincus and Carballo, 2010a) and that EAP helps firms to reach new foreign markets and to introduce new differentiated products/services in the market (Martincus and Carballo, 2010b).

EAP and entrepreneurship is again mentioned as "other" by Wilkinson (2006) that defends a more significant relationship between the number of national export promotion agencies' offices and firms' exports in US states that have better entrepreneurial climates. Miocevic (2013) also focuses on a paper with a non-pre-defined group: EAP and justice. The author states that firms with greater resource capacities receive more funding.

Table 6: Studies which evaluate specific programmes

Group	Author	Country analysed and classification	Main conclusions
Group 5: Evaluation and impact assessment of EAP's effectiveness	Cadot *et al.* (2015)	Tunisia - Emerging	Firms increased exports and diversification in the short term. However, three years after, the values were no longer significant.
	Lederman *et al.* (2015)	7 Countries - Emerging*	EAP enhance exports mostly by helping firms enter new markets and support their survival.
	Van Biesebroeck *et al.* (2015)	Canada - Advanced	The EAP was responsible for 10% of the exports' increase.
	Jalali (2012)	Iran - Emerging	Not only EAP have a strong direct impact on export performance, an indirect impact is also verified regarding strategy, knowledge and commitment towards exporting.
	Martincus and Carballo (2010a)	Chile - Emerging	EAPs have heterogeneous effects on the export performance, irrespective of whether the firm is located at the intensive or extensive margin. Also, smaller firms benefit more from EAP.
	Spence (2003)**	UK - Advanced	When participating in trade missions, firms should acquire pertinent information, identify competition in the host country and regularly contact sales representatives. This way, sales will be enhanced and exports will rise.
	Duran and Ubeda (2001)**	Spain - Advanced	A higher degree of internationalisation originates a higher degree of predisposition towards FDI, as long as business opportunities are identified.
	Brouthers and Wilkinson (2000)**	USA - Advanced	The participation in trade fairs is positively related to the success in exports. This is not verified in the trade missions' case.

Table 6: Studies which evaluate specific programmes (cont.)

Group	Author	Country analysed and classification	Main conclusions
Group 5: Evaluation and impact assessment of EAP's effectiveness	Seringhaus and Rosson (1998)**	Canada - Advanced	Participation in trade fairs gets positive results. However, these results depend on the commitment of the firm towards internationalisation.
	Seringhaus (1984)	Canada - Advanced	Even though trade missions are important in foreign market entry, they should be perceived as complementary support to the general export marketing strategy of the firm.
Group 6: Awareness, usefulness and usage of EAP	Brouthers and Wilkinson (2006)	USA - Advanced	The satisfaction of SMEs with their export success is positively related to the use of facilitating activities (e.g. trade fairs, informational services, identification of pertinent contacts).
	Martin (1996)**	USA - Advanced	There is no relationship between the number of export promotion agencies' offices in Japan and the exports of American firms to this country.
	Schwarting *et al.* (1982)**	Germany - Advanced	No conclusion presented***.
Group 7: EAP and internationalisation of the firm	Seringhaus and Mayer (1988)**	Canada - Advanced	Even though the usefulness of trade missions is perceived, they cannot mitigate all the export barriers.
Group 8: Link between EAP and stimulating/ obstructing factors	Kalafsky (2016)	UK - Advanced	Firms tend to go to proximate markets, regarding of how one defines distance.
	Martincus and Carballo (2010b)	Uruguay - Emerging	EAP help firms to reach new foreign markets and introduce new differentiated products/services in the market.
Several groups: Group 5 and Group 7	Weiss *et al.* (2011)	Chile - Emerging	The EAP had a positive impact on the exports of regional firms. The results showed a positive relation between the internationalisation stage and export performance (the more internationalised firms are, the better their export performance).
Other	Miocevic (2013)	Croatia - Emerging	Firms with greater resource capacities receive more funding. However, in the following year, they do not improve their export performance.
	Wilkinson (2006)	USA - Advanced	Exports are positively associated with states' investment in foreign trade offices. This relationship is more significant in states with a more enhanced entrepreneurial environment.

Notes:

* The 7 countries mentioned in the Lederman *et al.* (2015) paper are Argentina, Chile, Bolivia, Colombia, Ecuador, Peru and Uruguay.

* The conclusions of these papers were retrieved from Freixanet (2012).

*** Freixanet (2012) did not indicate the findings of this studies in his research and we are unable to obtain the paper. Although we can't present the findings of the study, its contribution is still important regarding group of the article and geographical focus.

Finally, studies which evaluate EAP collectively focus more in groups 5 (evaluation and impact assessment of EAP's effectiveness) and 6 (awareness, usefulness and usage of EAP) as well but present more diverge results than previous categories (Table 7). The positive impact of EAP continues to be defended by several authors (Yunus Ali and Shamsuddoha, 2014; Martincus and Carballo, 2008; Leonidou *et al.*, 2011; Durmuşoğlu *et al.*, 2012; Seringhaus and Botschen, 1991 (cfr. Freixanet, 2012)) but they are not perceived as useful in the sense that EAP do not match the expectations and needs of firms (Afrachali, 2013; Diamantopoulos *et al*., 1991). Also, Köksal (2009) and Kanda *et al.* (2015) claim that EAP awareness levels are low among firms.

Firms' needs difference depending on their internationalisation phase is defended by Naidu and Rao (1993), Walters (1983) and Crick (1995) (cfr. Freixanet, 2012) and, along with the conclusions of the studies which evaluate specific programmes, the effects of EAP are larger for smaller firms (Martincus *et al.*, 2012; Eun W. *et al.*, 2011; Francis and Collins- Dodd, 2004 (cfr. Freixanet, 2012)).

Regarding papers that studied topics classified as "other", Nauwelaerts and Vijfeyken (2013) focused on EAP and firms' satisfaction, Martincus and Carballo (2012) assessed the relationship between EAP and type of goods the firm exports, Gray (1997) wrote about EAP and typology of managers and Singh (1983) studied the relationship between EAP and the private sector.

Table 7: Studies which evaluate EAP collectively

Group	Author	Country analysed and classification	Main conclusions
Group 2 – EAP applied to the specific stage of internationalisation of the firm	Naidu and Rao (1993)*	USA - Advanced	Firms' needs differ depending on their internationalisation phase. These differences should be taken into consideration by EAP.
Group 5: Evaluation and impact assessment of EAP's effectiveness	Lowry (2014)	USA - Advanced	Most of the firms who participated in these EAP found them useful and changed their management practices as a result of their participation.
	Yunus Ali and Shamsuddoha (2014)	Bangladesh - Emerging	EAP influence the export performance through the development of knowledge related to exports, positive perception of managers regarding foreign markets and export commitment.
	Freixanet (2012)	Spain - Advanced	The use of EAP is associated with the diversification of exports and intermediate outcomes. No relationship was found regarding economic measures.
	Martincus *et al.* (2012)	Argentina - Emerging	The effects of EAP are larger for smaller firms.
	Eun W. *et al.* (2011)	South Korea - Advanced	Usage of EAP increases when the number of employees is small, export shares are low, there is little information on foreign markets, external environment is poor and there is high awareness of EAP. Usage of EAP decreases when firm gets more experience and EAP procedures are complicated. The use of EAP affects positively the export performance of firms.
	Brewer (2009)	Australia - Advanced	There was no significant result observed in widening the base of exporting firms in Australia. Instead, a slight decrease occurred.
	Martincus and Carballo (2008)	Peru - Emerging	Regarding both markets and products, EAP and the rise in exports are associated mainly along the extensive margin.
	Diamantopoulos *et al.* (1991)	UK - Advanced	The quality of the EAP does not match the expectations of exporters and some export promotion entities are perceived as inadequate. Market research support and advice on logistics are also perceived as inadequate. Export behaviour does not differ from exporters that use EAP and those who do not.
	Gronhaug and Lorentzen (1983)*	Norway - Advanced	Export barriers are a bigger obstacle for small less diversified firms that are less capable of obtaining foreign market's information and resources to overcome the barriers.

Table 7: Studies which evaluate EAP collectively (cont.)

Group	Author	Country analysed and classification	Main conclusions
Group 6: Awareness, usefulness and usage of EAP	Kanda *et al.* (2015)	Sweden - Advanced	Firms showed high export orientation although many of them claimed they were not aware of the EAP that fit their export needs. Other firms showed a high usage of EAP but only a few of them was able to relate it to their exports.
	Crick and Lindsay (2015)	New Zealand - Advanced	Overall managers' perceptions were positive at a macro and micro level.
	Afrachali (2013)	Iran - Emerging	Generally, the EAP provided by the Trade Promotion Organization of Iran do not comply with firms' expectations.
	Köksal (2009)	Turkey - Emerging	Exporting firms from Turkey tend to be aware of some of the EAP, but not all of them. The usage level of EAP by these firms is very low. Also, all EAP are considered useful.
	Shamsuddoha and Yunus Ali (2009)	Bangladesh - Emerging	From a questionnaire, awareness levels of EAP ranged from 53% to 100%. Usage ranged from less than 45% to 99%. EAP that bonded warehouse and trade fairs, contacts of foreign buyers, products' promotion and financial subsidies were the activities considered helpful.
	Ayos (2003)*	Spain - Advanced	EAP offer less services than what managers expect. EAP should consider managers' abilities and attitudes. Differences between firms are more significant when comparing them regarding industry than then internationalisation stage.
	Rick and Chaudhry (2000)*	UK - Advanced	There is higher awareness of EAPs for Asian managers compared to native managers.
	Crick and Czinkota (1995)*	USA and UK - Advanced	Final product is what firms both in USA and UK believe their clients value the most which differ from the factors pointed by firms in both countries.
	Seringhaus and Botschen (1991)*	Canada and Australia - Advanced	Managers that use EAP have a more significant participation in the private sector, are better adapted and segmented.
	Chokar and Kedia (1986) *	USA - Advanced	Make the market information more accessible to firms should be a priority for EAP.
	Seringhaus (1986)*	Canada - Advanced	No conclusion presented**.
	Walters (1983)*	USA - Advanced	The initial stages of internationalisation coincide with the period of biggest need for information and fewer allocation of resources.
	Buckley (1983)*	UK - Advanced	Along with investing in EAP, governments should improve the communication and visibility and invest in the creation of more suitable programmes once firms doubt their usefulness.
	Albaum (1983)*	USA - Advanced	EAP are considered positively valuable by the government but useless and not profitable by firms. There is not enough communication between the government and exporting firms.
	Czinkota (1982)*	USA - Advanced	No conclusion presented**.

Table 7: Studies which evaluate EAP collectively (cont.)

Group	Author	Country analysed and classification	Main conclusions
Group 6: Awareness, usefulness and usage of EAP	Cullwick and Mellallieu (1981)*	New Zealand - Advanced	The key factor for successful exports are the possession of trustworthy and objective information on the foreign markets and business opportunities.
	Pointon (1978)	UK - Advanced	The cooperation between exporters and the government is crucial for export success and should be visible through the utility of EAP to exporters.
	Mayer and Flynn (1973)*	Canada - Advanced	Foreign markets are valuable opportunities to SMEs in Canada. Even though export barriers can be reduced by EAP, managers usually favour personal and direct market experience.
Group 7: EAP and internationalisation of the firm	Crick and Chaudhry (1997)*	UK - Advanced	Different stages of internationalisation are related to different motivations for exporting. EAP are assessed as little motivating.
	Crick (1995)*	UK - Advanced	The needs of firms differ according to the internationalisation phase. It is recommended the use of an EAP model with less phases for the firms to be able to adapt easily to the programmes.
	Czinkota and Kotabe (1992)*	USA - Advanced	EAP are not always able to adapt to firms' needs. These needs change according to the internationalisation phase of the firms.
	Welch and Wiedersheim-Paul (1979)*	UK - Advanced	Financial support is required in the first steps of the export process but the crucial factors are the attitude of the managers, the advice they get and their knowledge towards exporting.
Group 8: Link between EAP and stimulating/ obstructing factors	Gencturk and Kotabe (2001)*	USA - Advanced	The most important factor is the level of commitment of the firm towards exporting. The impact of EAP depends on the performance dimension studied: effectiveness, efficiency or competitive position.
	Katsikeas *et al.* (1996)*	Greece - Advanced	Motivation and resources allocated to exports show a positive relationship with success in exports. The size and experience of the firm did not show any positive relationship.
	Singer and Czinkota (1994)*	USA - Advanced	No relationship between the type of service used, internationalisation stage, type of results and firm size was found. Instead, the authors found a positive relationship between the number of EAP used and managers' actions with performance level.
Group 9: EAP enhancement of existing managerial competences	Leonidou *et al.* (2011)	UK - Advanced	Firm's export-related resources, capabilities and export financial performance are positively affected by EAP. Firms enjoy competitive advantages associated with costs, products, or services.
	Francis and Collins-Dodd (2004)	Canada - Advanced	EAP have a positive impact on this type of firms when they have little experience.
	Reid (1984)*	Canada - Advanced	Multiple sources of informational services are available for firms and this is a crucial component when decisions on exporting need to be made.

Table 7: Studies which evaluate EAP collectively (cont.)

Group	Author	Country analysed and classification	Main conclusions
Several Groups: Group 5 and Group 6	Ayob and Freixanet (2014)	Malaysia - Emerging	Exporters use EAP more frequently and find them more useful than non-exporters. High awareness is found in both groups. Informational services are more useful than financial support.
Several Groups: Group 5 and Group 9	Durmuşoğlu *et al.* (2012)	Turkey - Emerging	EAP improve the financial, strategic, stakeholder relationship and organisational learning goal achievements performance.
Other	Nauwelaerts and Vijfeyken (2013)	Belgium - Advanced	Trade fairs abroad are the most effective EAP activity. Trade missions and invitation of foreign buyers are insignificantly or negatively related to export satisfaction of creative SMEs.
	Martincus and Carballo (2012)	Costa Rica - Emerging	EAP increase exports in products with extensive margins in terms of destination countries. However, this does not encourage firms to start exporting these goods. Also, no significant impact is referred for firms that export homogeneous and reference-priced goods.
	Gray (1997)*	New Zealand - Advanced	Experience assumes a more important role than education: even though managers with higher internationalisation performance are usually more experienced, this does not differ from other managers that received more education.
	Singh (1983)*	India - Emerging	Communication problems between the export promotion agencies and firms exist. This is due to the very big distance between the Indian government and its private sector. The government is also seen as not competent regarding their EAP.

Notes:
*The conclusions of these papers were retrieved from Freixanet (2012).
**Freixanet (2012) did not indicate the findings of these studies in his research and we are unable to obtain the papers. Although we can't present the findings of the studies, their contribution is still important regarding group of the article and geographical focus.

Considering all the tables presented above, there are several conclusions we can draw from this analysis, which are summarized in Table 8. First of all, we clearly conclude that there are categories, perspectives and groups that dominate both past and recent EAP literature: 47% of all studies analysed focused on EAP collectively; 67% focused on the receiver's perspective; and there are significantly more studies on group 5 (evaluation and impact assessment of EAP's effectiveness) (40% of all studies) and 6 (awareness, usefulness and usage of EAP) (22% of all studies).

We also concluded that the study of the relationship between EAP and entrepreneurship is being emphasised in recent literature. Also, it was also possible to determine that there are very few studies on group 1 (program-specific characteristics). The present paper can help mitigate this lack of research by contributing with an extensive research exactly on program-specific characteristics.

Table 8: Main conclusions of past literature analysis on EAP

	Previous Analysis (1973-2006)	Recent Analysis (2007-2016)	Total
Studies in each category			
Studies on theoretical development and methodology	7	6	13
Studies based on macroeconomic evaluations	3	13	16
Studies which evaluate specific EAP	10	9	19
Studies which evaluate EAP collectively	27	17	44
Total number of studies	47	45	93
Perspective			
Provider	3	13	16
Receiver	37	26	63
Group			
Group 1: Program-specific characteristics	0	2	2
Group 2: Maximisation of EAP´s effectiveness through agency structuration	2	3	5
Group 5: Evaluation and impact assessment of EAP's effectiveness	13	24	37
Group 6: Awareness, usefulness and usage of EAP	16	6	21
Group 7: EAP and internationalisation of the firm	7	1	8
Group 8: Link between EAP and stimulating/ obstructing factors	3	2	5
Group 9: EAP enhancement of existing managerial competences	2	2	4
Other	4	8	13
Total	47	49	

Note: An article can be included in more than one group. In recent literature there are two articles that belong to two groups each and one article that belongs to three groups.

Another analysis of the past literature was made studying the geographical focus of the several studies across time (Table 9). We concluded that recent research (past 9 years) included a much higher number of countries analysed than studies from 1973 until 2007 (35 countries against only 12). Regional analysis brought up also interesting results. Literature from 1973 until 2006 emphasises North America and Europe & Central Asia (although the only four countries here included are all members of the European Union), with USA being the geographical focus of 16 articles and Canada and UK 10 articles each. From the 46 articles where is possible to identify a region, 44 of them are on advanced economies and only two are on emerging markets.

Table 9: Main conclusions of past literature analysis regarding geographical focus

	Previous Analysis (1973-2006)	Recent Analysis (2007-2016)
Total number of studies	47	45
Total number of countries analysed	12	35
Studies focusing on advanced economies	44	17
Studies focusing on emerging markets	2	26
Geographical focus- Total number of times that the region was focus of a study		
East Asia & Pacific	14	7
Europe & Central Asia	15	13
Latin America and the Caribbean	1	11
Middle East and North Africa	0	3
North America	27	4
South Asia	1	3
Sub-Saharan Africa	0	1

Note: One study may not have a geographical focus or have more than one. Region according to World Bank (2016b).

The scenario was completely different when analysing literature from 2007 until 2016: 17 advanced and 26 emerging economies were studied and every region in the world was covered, although with significant differences in the number of studies. The emphasised regions were Europe and Central Asia and Latin America and the Caribbean. The countries that stood out were again USA (four studies) and Chile and UK (three studies each).

This geographical focus shift might be due to the growing importance of emerging markets in the international trade scenario. Concerning exports, the emerging markets' share in world exports has increased from 19% in 1990 to 36% in 2015 (World Bank, 2016c). On the import side, the share increased from 20% to 35% over the same period (World Bank, 2016c).

3. Methodological considerations

This chapter presents the methodology that will allow us to compare the EAP's content of both advanced and emerging economies. In this way, we start by presenting the countries and variables that will be studied (Section 3.1). In Section 3.2 we present the various statistical analysis we will conduct to reach conclusions regarding which group of countries has a more complete EAP, eventual differences between groups of countries and which provided services contribute the most to such differences.

3.1 Countries and variables selection

The country classification, advanced and emerging, that we adopted in this paper follows the World Bank (2016c) criteria. The criterion to choose the countries was based on the leading exporters in the world for merchandise trade in 2016, i.e. the countries that registered the higher value of exports in 2016 (UNCTAD, 2016). Therefore, the countries studied in this paper are the first 25 countries of each classification for which data was available, i.e. the 25 first advanced leading exporters and the 25 first emerging markets in the same conditions with reliable data sources. This criterion provides us a very interesting coverage of the EAP of the world major trade players given that the 50 countries studied in this paper account for more than 86% of the world merchandise trade in 2016 (UNCTAD, 2016). Table A1 in the Appendix presents the list of countries and respective data sources.

With regard to the selection of variables, we took into account the four types of direct EAP defined in Chapter 2. Regarding group 1 – financial support – it includes the grant of subsidies, tax benefits, such as low export-profit rates, long term tax holidays for profits and deferred taxes on earnings and incentives regarding credit policy and insurance programmes to cover capital needs (Gencturk, 2010). Group 2 – information services – includes data on several countries, reports on foreign firms, specific export opportunities, list of potential foreign buyers, agents and distributors, foreign credit information, foreign governments' regulations, information on export procedures and techniques (Albaum and Duerr, 2008). It can also include information on doing business in the host country, advice on the best marketing strategy and literature on export documentation (Leonidou *et al.*, 2011). Group 3 - facilitating activities - **i**ncludes trade related offices abroad or embassies or consulates, government- sponsored trade fairs and exhibitions, sponsoring trade

missions and operation of permanent trade centres abroad (Albaum and Duerr, 2008). Finally, group 4 - education and training – includes "*the organisation of export seminars and conferences, training programmes specialising in exporting, training on export documentation, provision of counselling advice on export business and foreign language support*" (Leonidou *et al.*, 2011, p. 13).

The criterion to select the specific variables of each group was simply if governments provide a certain service or not. Thus, we assumed that all the current support activities that governments conduct to exporters are made public and presented in their export agency websites. If a certain activity is not mentioned, we assumed the government does not provide this specific service to exporters.

Our dataset includes 76 variables in which more than 80% are binary variables. This is due to the difficulty in measuring the extent and depth of the services provided. For example, governments usually make public that they offer financial activities support to exporters but they do not disclose the values. Hence, instead of using concrete values, we just treat each variable in as binary variable. Table A2 in the Appendix presents the four groups with all the variables and respective definition.

It is important to mention two details. First, all the variables refer to the available information on national export promotion agencies' websites retrieved during the months of May and June 2017 (for specific dates please check webliography). Second, the collection of the data of the variables of group 2 – informational services – was based on a country with specific choice criteria. Generally, EAP offer informational services regarding a very high number of countries (usually more than 100) and, for practical reasons, we didn't check country by country. Instead, we chose a country that is not either a top 10 exporter, a developing country or a neighbouring country. This criterion is explained by the fact that top exporters and neighbouring countries tend to have more information and countries that do not assume a relevant position in international trade tend to have less. Therefore, selecting a country within these conditions allowed us to have an idea of the average information service the EAP provides.

3.2 Data analysis

Regarding which group of countries has a more complete EAP, we will simply conduct a univariate analysis, describe what the dataset tells us and assess which group of countries offer the biggest and smallest number of services. Individual countries and groups will also be analysed.

Concerning the eventual differences between groups of countries and which provided services contribute the most to such differences, we will proceed to 3 different analyses. Given our dataset with a great number of variables (76 variables in total) and its nature (11 quantitative variables and 65 qualitative variables) we will proceed to two dimension reduction methods to assess the overall underlying structure in the case of the quantitative variables and to reduce the number of variables in the analysis in the case of the qualitative ones. Therefore, the analysis of quantitative variables will be conducted through a principal component analysis (PCA) and a multiple correspondence analysis (MCA) will be conducted for the qualitative variables. These analyses will allow us to construct a few linear combinations of the 76 variables and understand how they statistically behave. Both analyses will be conducted using the SPAD software. After both these analyses, we will apply a linear discriminant analysis (LDA), using SPSS, to assess if advanced and emerging countries are statistically different and which variables make both groups of countries dissimilar.

4. Empirical results

This section presents the empirical results that will enable us to reach conclusions. Section 4.1 presents a data overview of the provided export support services and the next sections contain the more in depth statistical analysis: a principal component analysis (section 4.2), a multiple correspondence analysis (section 4.3) and a linear discriminant analysis (section 4.3).

4.1 Characterisation of EAP – data overview

For the interpretation of the dataset of the 76 variables for the 50 countries collected from the respective national export promotion agencies, we will start by conducting a univariate analysis, using SPSS, to observe the characteristics of individual variables and to set ground for the more complex statistical analysis that we will further conduct.

Regarding the 11 quantitative variables in our analysis, Table 10, together with Table A3 and Graphs A1 to A10 in the Appendix, present the main results of this analysis.

Table 10: Results of univariate analysis for the 11 quantitative variables

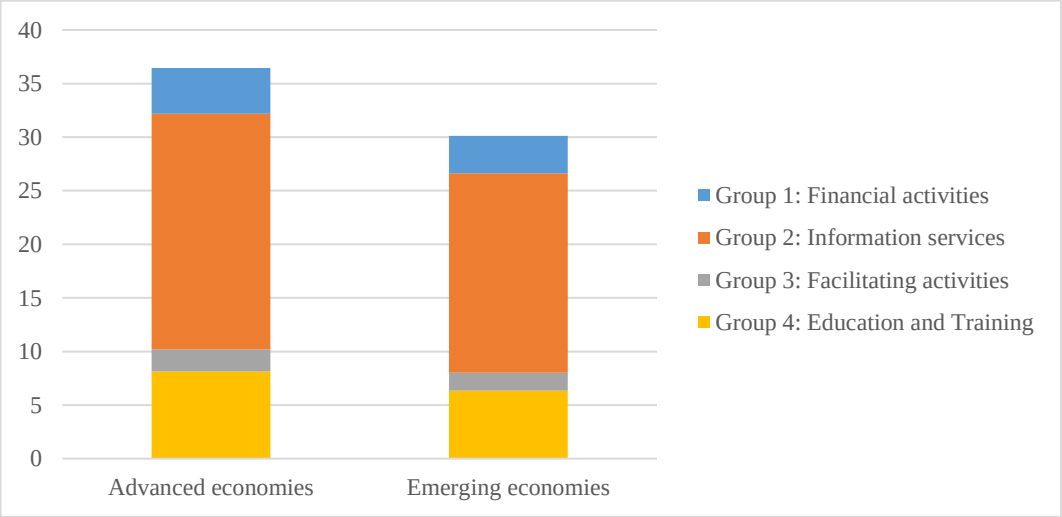
	Mean without outliers	Minimum without outliers	Maximum without outliers	Outliers	Appendix reference
X21: Data country coverage	91,78	0	274	Non Applicable (NA)	Graph A1
X22: Data available in number of indicators	34,27	0	138	Saudi Arabia (1419)	Graph A2
X24: Data available in number of years	8,48	0	23	NA	Graph A3
X26: Sector information	14,52	0	61	NA	Graph A4
X27: Market information	79,86	0	200	Germany (235)	Graph A5
X31: Offices abroad	41,06	0	135	China (224)	Graph A6
X33: National offices	0,03527	0,00000	0,16377	Singapore (1,39082), Hong Kong (0,9049) and Vietnam (0,1903)	Graph A7
X34: Domestic trade fairs	17,95	0	76	China (3710), Japan (498), Hong Kong (460), Turkey (458), Germany (368), Belgium (3469), Brazil (323) and Italy (183)	Graph A8
X35: Foreign trade fairs	95,37	0	482	China (7184), South Korea (4791), Brazil (988) and Spain (658)	Graph A9
X41: Seminars/ webinars/ conferences/ courses	72,81	0	283	Japan (1020), Colombia (994) and Austria (660)	Graph A10
X47: Foreign languages	0	0	0	Taiwan (12), China (10), Denmark (8), Austria (1), Chile (1), Colombia (1) and Japan (1)	Table A3

Analysing Table 10 and focusing on data-related variables, we conclude that the EAP of the 50 countries under analysis offer, on average, data on approximately 92 countries, regions or integration blocks, 34 data indicators and data on approximately 8 years. Governments cover, on average, 15 sectors and 83 markets with specific information, i.e., not just statistical facts. The 50 analysed countries have, on average, 45 offices abroad and 0.035 offices, per 1000 sq km, in the origin country where domestic firms can get support. Outliers should be mentioned regarding national offices with Singapore Hong Kong and Vietnam registering a much bigger country-coverage of offices than the rest of the countries. Regarding trade fairs, on average, domestic firms can participate in 18 and 96 domestic and foreign trade fairs respectively. Outliers assume again a worth-mentioning role: China, Japan, Hong Kong, Turkey, Germany, Belgium, Brazil and Italy assume a much higher number of domestic trade fairs; China, South Korea, Brazil and Spain offer a much higher number of foreign trade fairs in which domestic firms can participate. The average number of seminars/ webinars/ conferences/ courses offered by the governments in which exporters can participate annually is approximately 73. Japan, Colombia and Austria offer a much higher number of this type of activity to their firms. Regarding the number of foreign languages available for training provided by the EAP, 43 countries out of the 50 offer none. Taiwan, China and Denmark stand out for offering 12, 10 and eight languages respectively and Austria, Chile, Colombia and Japan offer one language (English in all cases).

Regarding the 65 qualitative variables and analysing Graph A11, we conclude that there are services that are widely and rarely offered by governments regarding their EAP. Examples of services commonly offered are counselling advice (X410), provision of loans (X14) and trade missions (X36) with 94%, 92% and 90% of countries offering these services. Information regarding negotiation (X214), mandatory reporting (X218) and after sales (X232) are the most infrequent services offered by governments, with only 6%, 8% and 8% of countries studied in this paper offering them.

After considering individual variables, we analysed the four groups of variables according to the literature: financial support (group 1), informational services (group 2), facilitating activities (group 3) and education and training (group 4). To do so, we simply summed the values of all the variables[1] and interpret accordingly to assess which countries provides the most complete EAP. Graph 1 presents the results of this sum decomposed by the four theoretical groups defined above.

Graph 1: Sum of all the services offered by each group of countries and by group of activities

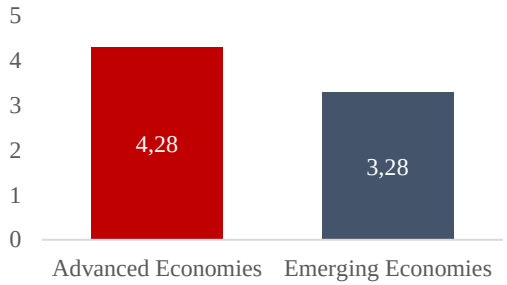


Interpreting Graph 1, first of all, we can rapidly conclude that advanced economies offer, on average, more complete EAP than emerging economies (total score of approximately 37 and 30 respectively). We can also confirm this fact by analysing each group individually on Graphs 2, 3, 4 and 5.[2]

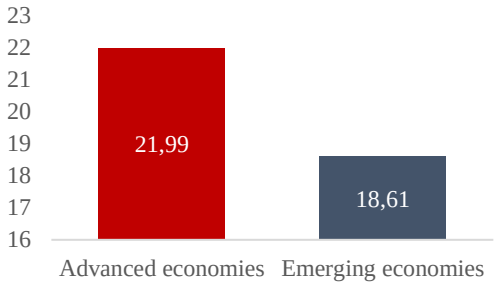
[1] For different scales reasons, we normalised the quantitative data for them to assume a value between 0 and 1. Therefore, we adopted a OECD, EU and JRC (2008) method, in which each quantitative variable value for each country will be transformed in $I_{qc} = \frac{x_{qc} - min_c(x_q)}{max_c(x_q) - min_c(x_q)}$, where $min_c(x_q)$ and $max_c(x_q)$ are the respective minimum and maximum value of variable x_{qc} across all the 50 countries and x_{qc} is the current value of the quantitative variable of country c.

[2] Note that the maximum score a country can reach in each group is the equivalent of the number of services identified, e.g. 5 financial services where identified in group 1, therefore, the maximum score a country can reach is 5. For groups 2, 3 and 4 these values are 46, 7 and 19 respectively.

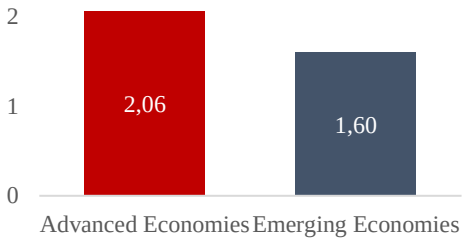
Graph 2: Average score of the financial services offered by each group of countries



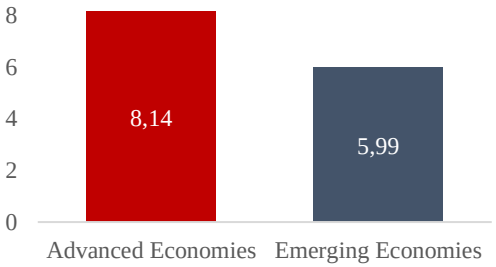
Graph 3: Average score of all the informational services offered by each group of countries



Graph 4: Average score of the facilitating activities offered by each group of countries



Graph 5: Average score of the education and training activities offered by each group of countries



Advanced economies offer more services to firms than emerging economies in all groups of services. Regarding financial and facilitating activities (graph 2 and 4 respectively), even though, on average, advanced countries offer more financial support (subsidies, tax benefits, insurance programmes, loans and export credit guarantees) and provide more facilitating activities (more offices abroad, working spaces, more national offices, more domestic and foreign trade fairs, trade missions and firm promotion), the differences are not significant.

Bigger differences between groups are notable when it comes to informational services and education and training (graph 3 and 5 respectively). Advanced economies offer significantly more information regarding data, host and domestic market regulations and general information and education and training services than emerging economies.

Despite these results, neither group of countries is close to offer a real complete EAP. Group 1 – financial services – is the only group of services where both groups of countries offer a reasonable amount of services – on average, advanced economies offer 4,3 types of services out of the 5 possible and emerging economies offer 3,3. Group 2 – informational services – shows that governments from both groups of countries are not offering even half of the 46 identified services: on average, advanced economies offer 22 and emerging economies offer only around 18,6. Group 3 – facilitating activities – is where governments could improve the most given that from a total score of 7, on average, advanced economies score approximately 2 and emerging economies score only 1,6. Regarding education and training activities (group 4), the results are similar to group 2: not even half of the identified services are provided. From a total possible of a score of 19 advanced economies score, on average approximately 8 and emerging economies 6.

Regarding individual countries, by consulting Graph A12 in the Appendix, we can conclude that Spain is the country that offers the most complete EAP of all the 50 countries. South Korea, USA, China and Singapore follow Spain in this order, with China being the emerging country with the highest score. Countries with the least complete EAP are Ghana, Pakistan, Greece, Nigeria and India.

4.2 Principal component analysis (PCA)

In order to understand the underlying structure of the collected quantitative data, in this section we will conduct a PCA. According to OECD, EU and JRC (2008, p. 63), "*The objective of PCA is to explain the variance of the observed data through a few linear combinations of the original data*". Applying the definition to the present paper, we constructed a small number of non-correlated linear combinations that are enough to explain the variance of our original dataset based on the 11 original quantitative variables we collected.[3]

[3] Since the 11 quantitative variables are classified as heterogeneous data, i.e. the variables are not all expressed in the same unit measure, we standardized the data in SPAD. This standardization is done by subtracting the mean value of each variable and then divide it for the standard deviation.

For PCA to reduce the dimension of the dataset, some variables should be correlated. According to Table A4 in the Appendix, this is verified for our 11 quantitative variables. The number of principal components (PCs) is defined by the amount of variance accounted for by each PC, i.e. eigenvalue.[4] We followed Kaiser's criterion and considered only eigenvalues larger than one. Therefore, and considering the output of SPAD presented in Table A5 in the Appendix we have four PCs that combined account for approximately 68% of variance. PC1, PC2, PC3 and PC4 individually represent approximately 30%, 18%, 11% and 9%, respectively.

Regarding the interpretation of each PC, we take into consideration both countries and variables. Regarding countries, we consider the ones that contribute the most to the construction of each factor and which sum of absolute contributions represents approximately 80% of all contributions. Regarding the variables, we consider those which are the most correlated with the PC.[5] Table A6 and A7 in the Appendix present the SPAD output respectively containing the countries' contribution and variables correlations in which we based the construction of Tables 11, 12, 13 and 14. The countries/variables presented in these tables are ordered by order of contribution/correlation.

Table 11 and Graph A13 in the Appendix present the results of the analysis of PC1. PC1 is positively associated with trade fairs (X34 and X35), the number of foreign markets covered by the EAP with market-specific information (X27) and data country coverage (X21) as evidenced by column B. China, Taiwan, South Korea, Spain, Turkey, USA, Belgium and Austria are the countries presented in the right side of column A and correspond to the higher values in these variables while Greece, Ukraine, Tunisia and Ghana present the smaller values.[6]

[4] The first linear combination, or principal component (PC), explains the biggest percentage of variance; the second PC is non-correlated with the first one and explains the second biggest percentage of variance; the third PC is non-correlated with the first two components and explains the third biggest percentage of variance; the rest of the PCs are computed likewise (Abdi and Williams, 2010).

[5] Normally, another restriction should be used regarding both countries and variables: they need to be well represented in the axes, i.e. presenting cos2 > 0,5. This does not happen in a lot of cases but the variables and countries are still well represented in the plans given that the sum of cos2 of the two axes is bigger than 0,5. For this reason, no countries or variables are excluded from the analysis.

[6] Countries in column A represent the countries which contribution sum represents approximately 80% of the total contributions of first axis. The sum of the contributions of all the countries to a PC is 100%. By

Table 11: Results of the analysis of Principal Component 1 of PCA

A - Countries analysis

Countries	
Negative coordinates	Positive coordinates
Greece Ukraine Tunisia Ghana	China Taiwan South Korea Spain Turkey USA Belgium Austria

B – Variables analysis

Variables	
Negative correlations	Positive correlations
	X34: Domestic trade fairs X35: Foreign trade fairs X27: Market information X21: Data country coverage

Table 12 and Graph A13 in the Appendix present the results of the analysis of PC2. According to column B, PC2 is positively associated with data country coverage (X21) and number of sectors covered by the EAP with sector-specific information (X26) and negatively associated with trade fairs data (X34 and X35). Regarding countries, China, Singapore and Greece are the ones which have higher values for domestic and foreign trade fairs data and lower values of data-related variables and information on specific sectors. Austria, Spain, Peru, USA, Turkey and Belgium present low values of trade fairs data and high values of data-related variables and specific sector information.

Table 12: Results of the analysis of Principal Component 2 of PCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
China Singapore Greece	Austria Spain Peru USA Turkey Belgium

B – Variables analysis

Variables	
Negative correlations	Positive correlations
X34: Domestic trade fairs X35: Foreign trade fairs	X21: Data country coverage X26: Sector information

analysing Table A6 of the Appendix, we can conclude that the sum of the contributions of China (47,7%), Taiwan (4,5%), South Korea (4,4%), Spain (3,7%), Turkey (3,6%), USA (3,5%), Greece (3,4%), Belgium (2,2%), Ukraine (2,2%), Austria (1,9%), Tunisia (1,9%) and Ghana (1,8%) is approximately 80%, thus enough for a significant sum of contributions. The factor scores of the countries (Table A6 in the Appendix) will define if a country has a positive or negative coordinate, e.g. Greece has a factor score of -2,37, thus the negative coordinate and China has a factor score of 8,86, thus the positive coordinate. Variables in column B represent the variables that are more correlated with PC1. By analysing Table A7 in the Appendix we can conclude that the variables in column B are the ones with the highest correlation values. The "coordinates" column of Table A7 in the Appendix defines if a variable has a positive or negative coordinate, e.g. X21 has a coordinate of 0,63, thus a positive correlation. The same logic applies to Tables 12, 13 and 14.

Table 13 and Graph A14 in the Appendix present the results of the analysis of PC3. As column A of Table 13 indicates, Iran, Turkey, Thailand, Bangladesh, Chile, Pakistan and Hong Kong are the countries that verify highest number off sectors with specific information (X26) and the lowest values for the number of indicators in the available data (X22). In the cases of Japan, Nigeria, Colombia, Austria, Denmark, Brazil and Taiwan the opposite situation is verified (column A of Table 13).

Table 13: Results of the analysis of Principal Component 3 of PCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Japan Nigeria Colombia Austria Denmark Brazil Taiwan	Iran Turkey Thailand Bangladesh Chile Pakistan Hong Kong

B – Variables analysis

Variables	
Negative correlations	Positive correlations
X22: Data available in number of indicators	X26: Sector information

Finally, Table 14 and Graph A14 in the Appendix present the results of the analysis of PC4. PC4 is negatively associated with the number of national offices per 1000 sq. km (X33). By analysing column A of Table 14, we conclude that Brazil has a low number of national offices (X33) and Singapore, Hong Kong, Austria, Japan and Colombia have a great number of national offices.

Table 14: Results of the analysis of Principal Component 4 of PCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Singapore Hong Kong Austria Japan Colombia	Brazil

B – Variables analysis

Variables	
Negative correlations	Positive correlations
X33: National offices	

PCA is useful to understand the underlying structure of the quantitative variables but no main conclusions can be drawn from it. Regarding countries, there is no strong pattern observed concerning advanced economies on one side of the axis and emerging economies on the opposite one, both groups of countries seem to be homogenous in this sense. Concerning variables, data country coverage (X21), sector information (X26) and domestic and foreign trade fairs (X34 and X35) could assume an important role given

that these variables are strongly correlated with more than one PC. However, further analysis is needed to assess if these variables really assume an important role when accounting for the whole dataset and not just the 11 quantitative variables.

4.3 Multiple correspondence analysis (MCA)

According to Abdi and Valentin (2007), "*MCA can be seen as a generalization of principal component analysis when the variables to be analysed are categorical instead of quantitativ*e". Therefore, just like in PCA, we will construct a small number of non-correlated linear combinations, called axes, that are enough to explain the variance of our original dataset based on the 64 original binary variables.

When applying this method to the dataset, we decomposed the binary variables into two modalities that represent the 0 (no) and 1 (yes) of the binary variable, e.g. X11 will be decomposed into modality X11Y (variable assumes the value 1 – yes) and modality X11N (variable assumes the value 0 – no).[7]

We will consider a number of axes that account for approximately 60% of total variance. Hence, according to Table A8 in the Appendix, we will consider 10 axes. To interpret each axis, we will consider the countries and modalities that contribute the most for the construction of the axis, i.e. the countries that present a contribution higher than 2% and the variables which sum of contributions represents approximately 50% of all contributions.[8] Tables A9 and A10 in the Appendix present the SPAD output respectively containing the countries and modalities' contributions in which we based the following interpretations.

Table 15 and Graph A15 in the Appendix present the results of the analysis of Axis 1. Ghana, Pakistan, Nigeria, Greece, Bangladesh, Tunisia, India, Morocco, Czech Republic and Portugal (column A) are characterised by not offering information regarding

[7] X23 is the only exception in the 65 qualitative variables. This is the only variable that can assume 3 values (0 for no data available, 1 for national level and 2 for state level). Therefore, X23 will be decomposed in X230, X231 and X232 respectively.

[8] Like in PCA, normally, another restriction should be used regarding both countries and modalities: they need to be well represented in the axes, i.e. presenting cos2 > 0,5. This does not happen in a lot of cases but the countries and modalities are still well represented in the plans given that the sum of cos2 of two axes is bigger than 0,5. For this reason, no countries or modalities are excluded from the analysis.

economic and political environment (X25N), growing export sectors (X224N) or customs regulations (X217N) and by offering information on legislative support (X211Y), banking system (X239Y) and practical information (X212Y) (column B). In countries like South Korea, Spain, China, Poland, Taiwan, USA and Germany the reverse situation is observed. Practical information (X112N and X212Y), aggregation level (X232 and X230) and latest news (X241N and X241Y) also assume an important role in the Axis 1 once both modalities of the same variable contribute significantly to the axis.[9]

Table 15: Results of the analysis of Axis 1 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
South Korea	Ghana
Spain	Pakistan
China	Nigeria
Poland	Greece
Taiwan	Bangladesh
USA	Tunisia
Germany	India
	Morocco
	Czech Republic
	Portugal

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X211Y - Legislative support	X25N - Economic and political environment
X239Y - Banking system	224N - Growing export sectors
X212Y - Practical information	X217N - Customs regulations
X229Y - Foreign firms	X223N - Trade agreements
X241Y - Latest news	X220N - Taxes and tariffs
X44Y - Partnership with universities	X215N - Requirements & documentation
X232 – Aggregation level	X212N - Practical information
	X28N - Market challenges and opportunities
	X230 – Aggregation level
	X414N - Business plan
	X241N - Latest news
	X412N - E-commerce education
	X410N - Counselling advice
	X15N - Export credit guarantees
	X213N - Cultural tips
	X216N - Labelling Requirements

[9] Countries in column A represent the countries which present a contribution bigger than 2% in Table A9 in the Appendix, e.g. Ghana has a contribution of 10,1%, Pakistan has a contribution of 9,1%, and so on so forth noting that countries are ordered by value of contribution. The "coordinates" column of Table A9 in the Appendix will define if a country has a positive or negative coordinate, e.g. Ghana has a coordinate of 0,95, thus the positive coordinate and South Korea has a coordinate of -0,65, thus the negative coordinate. Modalities in column B represent the modalities which sum of contributions represents approximately 50% of all contributions. The sum of the contributions of all the modalities to an Axis is 100%. By analysing Table A10 of the Appendix, we can conclude that the sum of the contributions of the 23 modalities in column B is approximately 50%, i.e. contribution of X25N (3,9%) plus contribution of X224N (3,2%) plus the rest of the contributions of the rest of the modalities is 50%, thus enough for a significant sum of contributions. Note that modalities are ordered by value of contribution. The factor scores column of Table A10 in the Appendix defines if a modality has a positive or negative coordinate, e.g. X25N has a factor score of 1,37, thus a positive coordinate and X211Y has a factor score of -0,8, this a negative coordinate. The same logic applies to Tables 16, 17, 18, 19, 20, 21, 22, 23 and 24.

Table 16 and Graph A15 in the Appendix present the results of the analysis of Axis 2. New Zealand, Ecuador, Germany, Poland, Vietnam, USA and China (column A) are characterised by offering information on common errors (X234Y), banking system (X239Y), local associations (X210Y), recruitment of personnel (X417Y), long term courses (X42Y) and working space (X32Y) (column B). Singapore, South Africa, France, Mexico, Argentina, UK, Sweden and Switzerland are characterised by not offering any of the mentioned services. Local associations (X210N and X210Y) assume an important role in the Axis 2 given that both modalities of the same variable contribute significantly to the axis.

Table 16: Results of the analysis of Axis 2 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Singapore	New Zealand
South Africa	Ecuador
France	Germany
Mexico	Poland
Argentina	Vietnam
UK	USA
Sweden	China
Switzerland	

B – Modalities Analysis

Modalities	
Negative coordinates	Positive coordinates
X417Y - Recruitment of personnel	X234Y - Common errors
X42Y - Long term courses	X239Y - Banking system
X32Y - Working space	X210Y - Local associations
X45Y- Case studies	X419N – Testimonies
X29N - Institutional contacts	X219Y - Visa requirements
X416Y – Incubation	X237Y - Fraud and anti-dumping
X44Y - Partnership with universities	X232Y - After sales
X418Y – Contests	X238Y - Methods of payment
X419Y - Testimonies	X242N - National local associations
X210N - Local associations	

Table 17 and Graph A16 in the Appendix present the results of the analysis of Axis 3. India, China, Germany, Turkey, Thailand, Mexico and South Korea (column A) are the countries that verify the most the provision of information regarding exports national reform plan (X245Y), data aggregation at a state level (X232) and tax benefits (X12Y) (column B). These countries are also characterised by not offering information regarding exports national reform plan (X245N) and export opportunities (X227N) and tax benefits (X12N) (column B). Ecuador, Denmark, New Zealand, Austria, Colombia, Hong Kong, UK and Chile are the countries that most strongly relate to the opposite scenario.

Table 17: Results of the analysis of Axis 3 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Ecuador	India
Denmark	China
New Zealand	Germany
Austria	Turkey
Colombia	Thailand
Hong Kong	Mexico
UK	South Korea
Chile	

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X245N - Exports national reform plan	X245Y - Exports national reform plan
X227N - Export opportunities	X232 – Aggregation level
X12N - Tax benefits	X12Y - Tax benefits
X242N - National local associations	X233Y - E-Commerce practices
X413Y – Software education	X229Y - Foreign firms
X237Y - Fraud and anti-dumping	X218Y - Mandatory reporting
	410N - Counselling advice

Table 18 and Graph A16 in the Appendix present the results of the analysis of Axis 4. Netherlands, Austria, Australia and the rest of the countries with positive coordinates in column A are the countries that contribute the most for this Axis with positive coordinates. Offering due diligence (X236Y) information, not offering information regarding declining export sectors (X225N) and providing information on common errors (X234Y) (column B) are modalities that contribute the most for this axis that have positive coordinates. Ukraine, Spain, Peru and the rest of the countries with negative coordinates in column A are the countries that contribute the most for this Axis with negative coordinates. Offering information on declining export sectors (X225Y) and working with the Government (X221Y) and not offering a list of buyers, agents and distributors (X228N) are the modalities that contribute the most for this axis and have negative coordinates.

Table 18: Results of the analysis of Axis 4 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Ukraine	Netherlands
Spain	Austria
Peru	Australia
Argentina	China
Iran	India
Czech Republic	Poland
Brazil	South Korea
Taiwan	UK
Israel	Japan
Ecuador	Mexico

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X225Y - Declining export sectors	X236Y - Due diligence
X221Y - Working with the Government	X225N - Declining export sectors
X228N - List of buyers, agents and distributors	X234Y - Common errors
X416Y – Incubation	X28N - Market challenges and opportunities
X232Y - After sales	X222N - Policy plan
X230Y - Consumer trends	X228Y - List of buyers, agents and distributors
X243N - National requirements & documentation	

Table 19 and Graph A17 in the Appendix present the results of the analysis of Axis 5. Greece, Austria, Czech Republic, Ukraine, New Zealand, Hong Kong, USA and Iran (column A) are the countries that satisfy the most the non-provision of information on national requirements & documentation (X243N), export opportunities (X227N) and infrastructure (X235N) (column B). These countries are also characterised by not offering export credit guarantees (X15N), by offering information on infrastructure (X235Y) and not offering firms the possibility to go on trade missions (X36N) (column B). For Ecuador, Colombia, Peru, Slovenia, Ghana, Vietnam, Sweden, China and Saudi Arabia the opposite scenario is verified. We can also conclude that the variable infrastructure (X235N and X235Y) has a crucial role in this axis given that both modalities of this variable contribute significantly to the axis.

Table 19: Results of the analysis of Axis 5 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Ecuador	Greece
Colombia	Austria
Peru	Czech
Slovenia	Republic
Ghana	Ukraine
Vietnam	New Zealand
Sweden	Hong Kong
China	USA
Saudi Arabia	Iran

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X15N - Export credit guarantees	X243N - National requirements & documentation
X235Y - Infrastructure	X227N - Export opportunities
X36N - Trade missions	X235N - Infrastructure
X11N - Financial subsidies	X240Y - National banks
X13N - Insurance programmes	X221Y - Working with the Government
	X236Y - Due diligence
	X237Y - Fraud and anti-dumping
	X37Y - Firm promotion
	X223N - Trade agreements
	X44Y - Partnership with universities

Table 20 and Graph A17 in the Appendix present the results of the analysis of Axis 6. Taiwan, Tunisia, Spain, Denmark, Hong Kong and Italy (column A) are characterized by offering a previous diagnostic (X411Y), contests (X418Y) and financial subsidies (X11Y) (column B) and by not offering financial subsidies (X11N), previous diagnostic (X411N) and insurance programmes (X13N) (column B). In the cases of Slovenia, Iran, Canada and the rest of the countries with negative coordinated in column A the reverse situation is observed. Policy plan (X222Y and X222N) and firm promotion (X37N and X37Y) also assume an important role in this axis given that both modalities of these variables contribute significantly to the axis.

Table 20: Results of the analysis of Axis 6 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Slovenia	Taiwan
Iran	Tunisia
Canada	Spain
Argentina	Denmark
Netherlands	Hong Kong
South Africa	Italy
USA	
Japan	

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X11N - Financial subsidies	X411Y - Previous diagnostic
X411N - Previous diagnostic	X418Y - Contests
X13N - Insurance programmes	X11Y - Financial subsidies
X32Y - Working space	X232Y - After sales
X222Y - Policy plan	X233Y - E-Commerce practices
X37Y - Firm promotion	X37N - Firm promotion
X49Y - Library	X46Y - Access to international databases
X242N - National local associations	X222N - Policy plan

Table 21 and Graph A18 in the Appendix present the results of the analysis of Axis 7. Spain, Bangladesh, New Zealand, Slovakia, Taiwan, Italy, Singapore and Israel (column A) are characterised by offering information regarding national banks (X240Y), access to international databases (X46Y) and information on negotiation (X214Y) and not characterised by offering information on mandatory reporting (X218Y), contests (X418Y) and case studies (X45Y) (column B). In the cases of Peru, Hong Kong, Turkey and the rest of the countries with negative coordinates in column A, the reverse situation is observed. The variable exchange platform (X48 N and X48Y) also assumes an important role in this axis given that both modalities of this variable have relatively high contributions for the axis.

Table 21: Results of the analysis of Axis 7 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Peru	Spain
Hong Kong	Bangladesh
Turkey	New Zealand
Germany	Slovakia
Chile	Taiwan
Thailand	Italy
Iran	Singapore
Ecuador	Israel
Denmark	
Canada	

B – Variables analysis

Modalities	
Negative coordinates	Positive coordinates
X218Y - Mandatory reporting	X240Y - National banks
X418Y - Contests	X46Y - Access to international databases
X45Y - Case studies	X214Y - Negotiation
X48Y - Exchange platform	X32Y - Working space
X13N - Insurance programmes	X414N - Business plan
X232Y - After sales	X417Y - Recruitment of personnel
	X48N – Exchange platform
	X413Y - Software education
	X231Y - Marketing strategy
	X234Y - Common errors

Table 22 and Graph A18 in the Appendix present the results of the analysis of Axis 8. Belgium, Denmark, Slovenia and the rest of the countries with positive coordinates in column A are characterized by the provision of information on consumer trends (X230Y), legislative support (X211Y) and marketing strategy (X231Y) and not characterized by the offer of information on common errors (X234Y), the non-provision of information on marketing strategy (X231N) and for the offer of online courses (X43Y) (column B). Italy, New Zealand, China, Argentina, Israel and Canada present the opposite scenario. Marketing strategy (X231N and X231Y), online courses (X43 N and X43Y) and legislative support (X211N and X211Y) contribute significantly to this axis given that both modalities of these variables have relatively high contributions for the axis.

Table 22: Results of the analysis of Axis 8 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Italy	Belgium
New	Denmark
Zealand	Slovenia
China	USA
Argentina	Brazil
Israel	Bangladesh
Canada	Mexico
	UK
	Spain
	Germany

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X234Y - Common errors	X230Y - Consumer trends
X231N - Marketing strategy	X211Y - Legislative support
X43Y - Online courses	X231Y - Marketing strategy
X211N - Legislative support	X238Y - Methods of payment
X413Y - Software education	X244Y - Data available on SMEs activity
	X233Y - E-Commerce practices
	X32Y - Working space
	X237Y - Fraud and anti-dumping
	X219Y - Visa requirements
	X415Y - Draft contract
	X43N - Online courses

Table 23 and Graph A19 in the Appendix present the results of the analysis of Axis 9. Sweden, Vietnam, Czech Republic, Saudi Arabia, Switzerland, Israel and Denmark are associated with the non-provision of a previous diagnostic (X411N), information on exports national reform plan (X245N) or online courses (X43N) and not associated with not providing loans (X14N) and providing long term courses (X42Y) and online courses (X43Y) (column B). In the cases of Ghana, Ecuador, Argentina and the rest of the countries with negative coordinates in column A, the situation is the opposite.

Table 23: Results of the analysis of Axis 9 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Ghana	Sweden
Ecuador	Vietnam
Argentina	Czech Republic
Australia	Saudi Arabia
South Korea	Switzerland
Singapore	Israel
Mexico	Denmark
Peru	
USA	
Nigeria	

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X14N - Loans	X411N - Previous diagnostic
X42Y - Long term courses	X245N - Exports national reform plan
X43Y - Online courses	X43N - Online courses
X230Y - Consumer trends	
X230 – Aggregation level	
X15N - Export credit guarantees	
X236Y - Due diligence	
X411Y - Previous diagnostic	
X13N - Insurance programmes	
X224N - Growing export sectors	

Table 24 and Graph A19 in the Appendix present the results of the analysis of Axis 10. Singapore, Germany, Austria, Colombia, Canada, UK, Thailand, Poland, Israel and The Netherlands (column A) are associated with the provision of access to international databases (X46Y) and software education (X413Y) and by not offering information regarding institutional contacts (X29N) (column B). The same countries are not associated with the provision of information on negotiation (X214Y), with the non-offering of access to international databases (X46N) and with provision of information on marketing strategy (X231Y) (column B). In the cases of Portugal, Australia, Japan and the rest of the countries with negative coordinates in column A the situation is the opposite. Access to international databases (X46N and X46Y), marketing strategy (X231N and X231Y), institutional contacts (X29N and X29Y) and testimonies (X419N and X419Y) contribute significantly to this axis given that both modalities of these variables have relatively high contributions for the axis.

Table 24: Results of the analysis of Axis 10 of MCA

A – Countries analysis

Countries	
Negative coordinates	Positive coordinates
Portugal	Singapore
Australia	Germany
Japan	Austria
New Zealand	Colombia
Slovakia	Canada
Switzerland	UK
USA	Thailand
Italy	Poland
Iran	Israel
South Africa	Netherlands

B – Modalities analysis

Modalities	
Negative coordinates	Positive coordinates
X214Y - Negotiation	X46Y - Access to international databases
X46N - Access to international databases	X413Y - Software education
X231Y - Marketing strategy	X29N - Institutional contacts
X238Y - Methods of payment	X218Y - Mandatory reporting
X37Y - Firm promotion	X419N - Testimonies
X29Y - Institutional contacts	X231N - Marketing strategy
X419Y - Testimonies	X45N - Case studies
	X233Y - E-Commerce practices

Unlikely the conclusion of PCA, we can draw some conclusions out of the MCA analysis. Regarding countries, the conclusion is similar to PCA: MCA is useful to understand the underlying structure of the qualitative variables but, in the first 10 axes, only in Axis 5 a pattern of advanced and emerging economies on opposite sides of the axis can be observed (majority of emerging countries on the negative coordinates and majority of advanced countries in positive coordinates). Therefore, no patterns between advanced and emerging economies can be verified in this analysis.

Concerning variables, given that the number of modalities is very big (131 modalities in total- two modalities per each 64 binary variable plus three modalities for variable X23), we will not mention, for now, which variables might assume an important role. Instead, by verifying which variables contribute the most for each axis, we can conclude that the more relevant variables will likely be included in group 2 (informational services) and group 4 (education and training).

4.4 Linear discriminant analysis (LDA)

LDA is a statistical method used to discriminate two or more groups of observations (Sharma, 1996). In this paper, the aim of conducting LDA is to assess if the classification groups - advanced and emerging countries - present significant differences between them and which variables allow us to discriminate the two groups. This analysis will allow us to answer the questions PCA and MCA could not answer and explore the second goal of

this paper: statistically assess if both groups of countries are different and which activities contribute for this difference.

We conducted the LDA with the 11 quantitative variables and the first 10 factors from MCA. According to Sharma (1996, p. 263), two assumptions must be taken into consideration: "*Discriminant analysis assumes that data come from a multivariate normal distribution and that the covariance matrices associated with the groups are equal*". For the first assumption, we will assume that it is verified. The second assumption is not verified, as shown in Table A11 in the Appendix.[10] However, further LDA results (mainly the significance of the discriminant analysis) are robust so we can proceed with the analysis.

Regarding concrete differences in the EAP's content, i.e. variables or factors, and given that both groups show normal distributions and we account for a 5% significance level, we will assess if the means of each variable or factor within each group of countries is different. Therefore, we defined the following null and alternative hypothesis:

H_0= The means of both groups for each variable of factor are equal.

H_1= The means of both groups for each variable of factor are different.

According to Table A12 in the Appendix, we reject the null hypothesis that the two means are equal for both advanced and emerging groups regarding factors 1 and 5 of MCA. This means that contribute more to factors 1 and 5 (also concluded by analysing Table A13 in the Appendix) are the ones that allow us to discriminate both groups, i.e. are the ones that make EAP's content different between advanced and emerging countries. Therefore, considering the modalities that contribute the most to the construction of the factors (Table 25)[11], the variables that contribute the most for differences between advanced and emerging economies are the following: economic and political environment (X25), growing export sectors (X224), customs regulations (X217), latest news (X241),

[10] For the assumption to be verified, the determinants should be almost equal (column A of Table A11 in the Appendix) and the p-value should be higher than the significance level (5%). As shown in column B of Table A11 in the Appendix, this is not the case.

[11] Due to the very big number of modalities in both factors, we will only mention the three first modalities in each side of the columns A and B of Table 25. However note that all of them contribute to the construction of the factors and therefore they also contribute to the differences between advanced and emerging economies.

partnership with universities (X44Y), foreign firms (X229Y), export credit guarantees (X15), trade missions (X36), infrastructure (X235), national requirements & documentation (X243) and export opportunities (X227).

Table 25: Modalities that contribute the most for the factors/axes 1 and 5

A – Factor 1

Negative coordinates	Positive coordinates
X25N - Economic and political environment X224N - Growing export sectors X217N - Customs Regulations X223N - Trade Agreements X220N - Taxes and tariffs X215N - Requirements & Documentation X212N - Practical information X414N - Business plan X28N - Market challenges and opportunities	X241Y - Latest news X44Y - Partnership with universities X229Y - Foreign firms X215Y - Requirements & Documentation

B – Factor 5

Negative coordinates	Positive coordinates
X15N - Export credit guarantees X36N - Trade missions X235Y - Infrastructure X13N - Insurance programmes X11N - Financial subsidies X411Y - Previous diagnostic X222Y - Policy plan	X243N - National Requirements & Documentation X235N - Infrastructure X227N - Export opportunities X240Y - National banks X221Y - Working with the Government X236Y - Due diligence X237Y - Fraud and anti-dumping X37Y - Firm promotion X223N - Trade Agreements

The importance of activities in group 2 (informational services) is very much supported in the literature. Several authors mentioned in Chapter 2 defend the provision of informational services as a key factor for success in exports (e.g. Sraha (2015) and Yunus Ali and Shamsuddoha (2014)). However, González (2009) and Diamantopoulos *et al.* (1991) state that the provision of informational services is not sufficient and it can be even perceived as inadequate. Chokar and Kedia (1986) (cfr. Freixanet 2012) conclude that making market information more accessible to firms should be a priority in EAP. Even though the study has been published more than 30 years ago, this conclusion is still accurate given the importance that informational services assume in differentiating EAP of advanced and emerging countries and the fact that countries are not offering, on average, even half of all the identified informational services (Section 3.1 of the present paper).

Therefore, the conclusions previously drawn in the PCA (data country coverage -X21- and domestic and foreign trade fairs - X34 and X35- could assume an important role in differencing the groups) and MCA analysis (the significant variables for assessing the differences between groups of countries will likely be included in group 2 - informational

services- and group 4 - education and training) are partially correct. Regarding PCA, no quantitative variable assumes an important role. In fact, the variables X21, X34 and X35 present relatively low correlations with the discriminant function (Table A13 in the Appendix). Regarding MCA, it is true that group 2 – informational services – has the biggest amount of variables in this discriminant result (13 out the 23 variables). However, group 4 – education and training – does not assume such an important role as we previous thought (only five out the 23 variables belong to group 4, compared to three on group 1 and two on group 3).

To test if the discriminant function, i.e. the linear combination of variables that better discriminate both groups, is significant, we will assess if the group means for the all the 11 quantitative variables and 10 factors combined are equal. Therefore, we defined the following null and alternative hypothesis:

H_0= The means of both groups for all the variables and factors are equal.

H_1= The means of both groups for all the variables and factors are different.

To assess this we will conduct a Wilks' Lambda test. According to IBM (2012), "*Wilks' lambda (…) is equal to the proportion of the total variance in the discriminant scores not explained by differences among the groups. Smaller values of Wilks' lambda indicate greater discriminatory ability of the function*". Therefore, according to Table A14 in the Appendix and admitting a 5% significance level, we reject H_0 and conclude that the discriminant function is statistically significant. This means that advanced and emerging countries are statistically different when we consider the entire dataset, i.e. there are in fact differences in the EAP's contents of advanced and emerging countries.

It is also pertinent to analyse how these two factors contribute for the differences between the content of the EAP of advanced and emerging economies. According to Table A15 in the Appendix, we can conclude that advanced economies assume higher values in both factors 1 and 5 when compared to emerging economies – reassuring the conclusion that advanced countries offer more complete EAP than emerging economies.

5. Conclusions

With the unquestionable importance of exports in countries' economies and the barriers firms can face when trying to initiate their export processes, EAP can be a very useful and valuable tool for the increase of the country's exports. Even though governments have been increasingly investing in EAP in the last two decades (Freixanet, 2012), in this paper we concluded that most countries do not offer EAP as complete as they can be. The international trade picture is changing with the growing importance of emerging markets and their EAP, as well as the ones from the already established major trade players of the world, can contribute to this change.

In this paper we assessed if there is any difference between the content of EAP of advanced and emerging economies and which type of support activities contribute the most for the eventual differences. From national export promotion agencies' websites of 25 advanced and 25 emerging economies, we identified 76 services that governments can offer to exporters. According to the literature, these 76 services can be included in four groups: financial support, informational services, facilitating activities and education and training (Hollensen, 2007; Leonidou *et al.*, 2011).

To reach conclusions, we conducted a simple interpretation of the collected data, a principal component analysis, a multiple correspondence analysis and a discriminant analysis. Results showed that advanced economies offer, on average, more complete EAP than emerging economies. Advanced economies offer, on average, more financial support, more informational services, more facilitating activities and more education and training services. Statistically, both groups of countries present differences and the activities that contribute the most to this differences are information regarding the host country on economic and political environment, growing export sectors, customs regulations and latest news, partnership with universities, information concerning foreign firms, the provision of export credit guarantees, the possibility of exporters to experience trade missions, information on the host country's infrastructure, information on national requirements and documentation needed for the export process and knowledge of export opportunities. The acknowledgment of these differences are important for national export promotion agencies and policy makers of both groups of countries to understand what type of activities other similar entities are conducting and thus upgrading their offer to

firms in order to approach foreign markets. This benchmarking exercise might be especially useful for countries with very precarious EAP, i.e. not offering many services to firms in order to converge their EAP and trade policy with the rest of the major players of the international trade sphere. It can also be useful to overcome several export barriers related to information, marketing, resources, procedural and environmental (Leonidou, 2004; Arteaga-Ortiz and Férnandez-Ortiz, 2010).

Data issues are a limitation of this paper. First, we reach conclusions assuming that all the current support activities that governments conduct to exporters are made public and presented in their export agency websites. If the government offers more activities than they present on the website but does not communicate them to firms, the conclusions could be different since these programmes would be more complete than what we are concluding. Second, we were not able to collect data for some major international trade players from the emerging economies group that could have influence the results, namely Russia, Indonesia and Malaysia. The only way of fixing these two limitations would be having the confirmation of each export promotion agency of what services they really offer to exporters but for practical reasons we did not proceed to these type of consultations.

Even though limitations exist, this paper has significant contribution to the literature since it is, to the best of our knowledge, the first paper that compares the content of EAP from advanced and emerging economies. To carry further analysis, we suggest several topics for future research. First, the analysis could be extended to a bigger number of countries and consultations with national export promotion agencies could be pursued for 1) the inclusion of all the major trade players of both groups and 2) credibility reasons mentioned above. Second, with a higher number of countries participating in the paper, a geographical analysis could be conducted to assess if certain areas of the globe offer more complete EAP. Third, these results could be related with trade indicators to assess, for example, if a more complete EAP also corresponds to a stronger country's export performance. Fourth, and finally, data could be collected on an annual basis to assess evolution of EAP and new or obsolete services offered to exporting firms.

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Appendix

Table A1 - Countries studied and classification and respective data source

Rank	Country	Classification	Source
1	China	Emerging	Ministry of Commerce of the People's Republic of China (2017)
2	USA	Advanced	International Trade Administration, U.S. Department of Commerce (2017)
3	Germany	Advanced	Germany Trade & Invest (2017)
4	Japan	Advanced	Japan External Trade Organization (2017) Japan Bank for International Cooperation (2017)
5	Netherlands	Advanced	Netherlands Enterprise Agency (2017)
6	Hong Kong	Advanced	Hong Kong Trade Development Council (2017) Trade and Industry Department, Hong Kong Special Administrative Region (2017)
7	France	Advanced	Business France (2017) Bpifrance (2017)
8	South Korea	Advanced	Korean Trade and Investment Agency (2017)
9	Italy	Advanced	Italian Trade Agency (2017)
10	UK	Advanced	Export Britain, British Chambers of Commerce (2017)
11	Belgium	Advanced	Flanders Investment & Trade (2017) Brussels Invest & Export (2017) Belgian Export Credit Agency (2017)
12	Canada	Advanced	Export Development Canada (2017)
13	Mexico	Emerging	ProMéxico (2017)
14	Singapore	Advanced	International Enterprise Singapore (2017)
15	Switzerland	Advanced	State Secretariat for Economic Affairs of Switzerland (2017)
16	Spain	Advanced	ICEX España Exportación e Inversiones (ICEX Spanish exports and investment) (2017)
18	Taiwan	Emerging	Taiwan External Trade Development Council (2017) Bank of Taiwan (2017)
20	India	Emerging	Indian Trade Portal (2017)
21	Thailand	Emerging	Department of International Trade Promotion, Ministry of Commerce of Thailand (2017) Export-Import Bank of Thailand (2017)
22	Poland	Emerging	Export Promotion Portal (2017)
23	Australia	Advanced	Australian Trade Commission (2017) Export Finance and Insurance Corporation (2017)
25	Brazil	Emerging	Brazilian Trade and Investment Promotion Agency (2017)
26	Vietnam	Emerging	Vietnam Trade Promotion Agency (2017) Vietnam Development Bank (2017)
27	Saudi Arabia	Emerging	Saudi Export Development Authority (2017)
28	Czech Republic	Advanced	CzechTrade (2017) Czech Export Bank (2017)
29	Austria	Advanced	Austrian Economic Chambers (2017) Oesterreichische Kontrollbank Aktiengesellschaft (German: Austrian Control Bank) (2017)
31	Turkey	Emerging	Ministry of Economy of Turkey (2017) Export Credit Bank of Turkey (2017)
32	Sweden	Advanced	Swedish Trade & Investment Council (2017) Exportkreditnämnden (Swedish: Export Credit Committee) (2017)
35	Denmark	Advanced	Ministry of Foreign Affairs of Denmark (2017) EKF - Eksport Kredit Fonden (Danish: Export Credit Fund) (2017)
37	Slovakia	Advanced	Slovak Investment and Trade Development Agency (2017) Export-Import Bank of the Slovak Republic (2017)

Table A1 - Countries studied and classification and respective data source (cont.)

Rank	Country	Classification	Source
38	South Africa	Emerging	Department of Trade and Industry, Republic of South Africa (2017) Cape Town & Western Cape Tourism, Trade and Investment (2017) Export Credit Insurance Corporation of South Africa (2017)
39	Iran	Emerging	Trade Promotion Organization of Iran (2017) Export Development Bank of Iran (2017)
41	Israel	Advanced	Israel Export Institute (2017) ASHRA (Israeli Export Credit Agency) (2017)
42	Chile	Emerging	ProChile (2017)
43	Argentina	Emerging	Agencia Argentina de Inversiones y Comercio Internacional (2017)
47	Portugal	Advanced	AICEP Portugal Global - Trade & Investment Agency (2017)
50	Peru	Emerging	Comisión de Promoción del Perú para la Exportación y el Turismo (Spanish: Exports and Tourism Promotion Commission of Peru) (2017)
52	Ukraine	Emerging	Export Promotion Office of Ukraine (2017) State Export-Import Bank of Ukraine (2017)
53	Bangladesh	Emerging	Bangladesh Export Promotion Bureau (2017)
54	New Zealand	Advanced	New Zealand Trade and Enterprise (2017) New Zealand Export Credit Office (2017)
55	Slovenia	Advanced	Public Agency for Entrepreneurship, Internationalization, Fore-ign Investments and Technology of Slovenia (2017) Slovenska Izvozna in Razvojna Banka (Slovenian: Slovenian Export and Development Bank) (2017)
56	Nigeria	Emerging	Nigerian Export Promotion Council (2017) Nigerian Export-Import Bank (2017)
57	Colombia	Emerging	ProColombia (2017)
59	Greece	Advanced	Enterprise Greece (2017) Export Credit Insurance Organization (2017)
60	Bulgaria	Emerging	Bulgarian Small and Medium Enterprises Promotion Agency (2017) Bulgarian Export Insurance Agency (2017)
67	Morocco	Emerging	Centre Marocain De Promotion Des Exportations (French: Export Promotion Centre of Morocco) (2017)
68	Pakistan	Emerging	Trade Development Authority of Pakistan (2017)
69	Ecuador	Emerging	ProEcuador (2017)
73	Tunisia	Emerging	Tunisian Export Promotion Center (2017)
78	Ghana	Emerging	Ghana Export Promotion Authority (2017)

Note: The countries are ranked by merchandise trade value in 2016 (UNCTAD, 2016).

Table A2 – Variable Definition and empirical or evidence support

A: Variable definition and empirical or evidence support for group 1 (financial activities)

Variable	Variable definition	Literature or evidence support
X11: Financial subsidies (0/1)	1 if the EAP provides grant of financial subsidies to cover export related expenses such as participation in trade fairs, trade missions and educational events, logistics, foreign mandatory documentation, among others; 0 if not.	Gencturk (2010)
X12: Tax benefits (0/1)	1 if the EAP provides grant of tax benefits such as low export-profit rates, long term tax holidays for profits, deferred taxes on earnings and incentives regarding credit policy; 0 if not.	Gencturk (2010)
X13: Insurance programmes (0/1)	1 if the EAP provides grant of export-specific insurance programmes; 0 if not.	Gencturk (2010)
X14: Loans (0/1)	1 if the EAP provides grant of loans to exporters; 0 if not.	Leonidou *et al.* (2011)
X15: Export credit guarantees (0/1)	1 if the EAP provides export credit guarantees to exporters; 0 if not.	Leonidou *et al.* (2011)

B: Variable definition and empirical or evidence support for group 2 (information services)

Variable	Variable definition	Literature or evidence support
Data-related information services		
X21: Data country coverage	Number of countries, regions or integration blocks covered by the EAP on the data provided to exporters.	Albaum and Duerr (2008)
X22: Data available in number of indicators	Number of indicators covered by the EAP on the data provided to exporters.	Albaum and Duerr (2008)
X23: Level of data aggregation	Number of levels (none, national or state) covered by the EAP on the data provided to exporters.	Albaum and Duerr (2008)
X24: Data available in number of years	Number of years covered by the EAP on the data provided to exporters.	Albaum and Duerr (2008)
Sector or host country related information services		
X25: Economic and political environment (0/1)	1 if the EAP provides information on the economic and political environment of the host country; 0 if not.	Leonidou *et al.* (2011)
X26: Sector information	Number of sectors covered by the EAP with sector-specific information, i.e., more than just statistical facts.	Leonidou *et al.* (2011)
X27: Market information	Number of foreign markets covered by the EAP with market-specific information, i.e., more than just statistical facts.	Leonidou *et al.* (2011)
X28: Market challenges and opportunities (0/1)	1 if the EAP provides information on the challenges and opportunities of the host country; 0 if not.	Leonidou *et al.* (2011)
X29: Institutional contacts (0/1)	1 if the EAP provides information on the pertinent export-related contacts of the host country; 0 if not.	Leonidou *et al.* (2011)
X210: Local associations (0/1)	1 if the EAP provides information on relevant associations and unions in the host country; 0 if not.	Leonidou *et al.* (2011)
X211: Legislative support (0/1)	1 if the EAP provides information on lawyers or equivalent in the host country; 0 if not.	Leonidou *et al.* (2011)
X212: Practical information (0/1)	1 if the EAP provides practical information on traveling to the host country, such as consular services, transportation and health systems, telecommunications, language, local time, etc.; 0 if not.	Leonidou *et al.* (2011)
X213: Cultural tips (0/1)	1 if the EAP provides information on cultural tips on doing business in the host country; 0 if not.	Leonidou *et al.* (2011)
X214: Negotiation	1 if the EAP provides information on useful negotiation techniques to be applied in the host country; 0 if not.	Evidence
X215: Requirements & documentation (0/1)	1 if the EAP provides information on export and/or import documentation required by the host country; 0 if not.	Albaum and Duerr (2008)

B: Variable definition and empirical or evidence support for group 2 (information services) (cont.)

Variable	Variable definition	Literature or evidence support
X216: Labelling requirements (0/1)	1 if the EAP provides information on the different labelling and marking requirements imposed by the host country; 0 if not.	Leonidou *et al.* (2011)
X217: Customs regulations (0/1)	1 if the EAP provides information on customs regulations of the host country; 0 if not.	Leonidou *et al.* (2011)
X218: Mandatory reporting (0/1)	1 if the EAP provides information on the mandatory reports and fiscal sheets to be presented to the host country's government; 0 if not.	Leonidou *et al.* (2011)
X219: Visa requirements (0/1)	1 if the EAP provides information on visa requirements needed to travel to the host country; 0 if not.	Leonidou *et al.* (2011)
X220: Taxes and tariffs (0/1)	1 if the EAP provides information on relevant taxes and tariffs in specific products or sectors in the host country; 0 if not.	Leonidou *et al.* (2011)
X221: Working with the Government (0/1)	1 if the EAP provides information on working with the host country's government; 0 if not.	Evidence
X222: Policy plan	1 if the EAP provides information on the export policy plan of the host country; 0 if not.	Evidence
X223: Trade agreements (0/1)	1 if the EAP provides information on bilateral and multilateral trade agreements signed by the host country; 0 if not.	Evidence
X224: Growing export sectors (0/1)	1 if the EAP provides information on the most attractive sectors for export of the host country; 0 if not.	Evidence
X225: Declining export sectors (0/1)	1 if the EAP provides information on the most unattractive sectors for export of the host country; 0 if not.	Evidence
X226: Ongoing projects (0/1)	1 if the EAP provides information on on-going projects in the host country that might be relevant for exporters; 0 if not.	Evidence
X227: Export opportunities (0/1)	1 if the EAP provides information on specific export opportunities in the host country; 0 if not.	Albaum and Duerr (2008)
X228: List of buyers, agents and distributors (0/1)	1 if the EAP provides a list of potential buyers, agents and distributors in the host country; 0 if not.	Albaum and Duerr (2008)
X229: Foreign firms (0/1)	1 if the EAP provides information on foreign firms in the host country; 0 if not.	Albaum and Duerr (2008)
X230: Consumer trends (0/1)	1 if the EAP provides information on the current consumer trends in the host country; 0 if not.	Evidence
X231: Marketing strategy (0/1)	1 if the EAP provides information on the best marketing strategy to adopt; 0 if not.	Leonidou *et al.* (2011)
X232: After sales (0/1)	1 if the EAP provides information on after sales services' common practises in the host country; 0 if not.	Evidence
X233: E-Commerce practices (0/1)	1 if the EAP provides information on the e-commerce usage in the host country; 0 if not.	Evidence
X234: Common errors (0/1)	1 if the EAP provides information on the most common errors committed by national exporters in the host country; 0 if not.	Evidence
X235: Infrastructure (0/1)	1 if the EAP provides information on the main infrastructures in the host country such as roads, ports and airports; 0 if not.	Evidence
X236: Due diligence (0/1)	1 if the EAP provides information on due diligence's common practises in the host country; 0 if not.	Evidence
X237: Fraud and anti-dumping (0/1)	1 if the EAP provides information on the fraud and anti-dumping regulations in the host country; 0 if not.	Evidence
X238: Methods of payment (0/1)	1 if the EAP provides information on the most common methods of payment in the host country; 0 if not.	Leonidou *et al.* (2011)
X239: Banking system (0/1)	1 if the EAP provides information on the host country's banking system; 0 if not.	Evidence
X240: National banks (0/1)	1 if the EAP provides information on national banks operating in the host country; 0 if not.	Evidence
X241: Latest news (0/1)	1 if the EAP provides information on export relevant recent news in the host country; 0 if not.	Leonidou *et al.* (2011)

B: Variable definition and empirical or evidence support for Group 2 (information services) (cont.)

Variable	Variable definition	Literature or evidence support
Origin country related information services		
X242: National local associations (0/1)	1 if the EAP provides information and contacts on host country's national local associations; 0 if not.	Leonidou *et al.* (2011)
X243: National requirements & documentation (0/1)	1 if the EAP provides information on the national requirements and documentation needed internally to export; 0 if not.	Leonidou *et al.* (2011)
X244: Data available on SMEs activity (0/1)	1 if the EAP provides data on national SMEs regarding their size, type, industry, product or location; 0 if not.	Evidence
X245: Exports national reform plan (0/1)	1 if the EAP provides information on the national reform plan regarding exports; 0 if not.	Evidence

C: Variable definition and empirical or evidence support for group 3 (facilitating activities)

Variable	Variable definition	Literature or evidence support
X31: Offices abroad	Number of offices abroad where national exporters can get support.	Albaum and Duerr (2008)
X32: Working space (0/1)	1 if the EAP provides facilities abroad which exporters can use as an office or meeting room; 0 if not.	Albaum and Duerr (2008)
X33: National offices*	Number of offices in the origin country, per 1000 sq km, where national exporters can get support.	Albaum and Duerr (2008)
X34: Domestic trade fairs**	Number of domestic trade fairs in which domestic firms can participate annually.	Albaum and Duerr (2008)
X35: Foreign trade fairs**	Number of foreign trade fairs in which domestic firms can participate annually.	Albaum and Duerr (2008)
X36: Trade missions (0/1)	1 if the EAP provides exporters the opportunity of meeting potential clients in the host country; 0 if not.	Albaum and Duerr (2008)
X37: Firm promotion (0/1)	1 if the EAP provides customised promotion events for a particular exporter; 0 if not.	Leonidou *et al.* (2011)

D: Variable definition and empirical or evidence support for group 4 (education and training)

Variable	Variable definition	Literature or evidence support
X41: Seminars/ webinars/ conferences/ courses**	Number of seminars/ webinars/ conferences/courses in which domestic firms can participate annually.	Leonidou *et al.* (2011)
X42: Long term courses (0/1)	1 if the EAP provides courses with at least 1 year duration; 0 if not	Evidence
X43: Online courses (0/1)	1 if the EAP provides online training courses for exporters; 0 if not.	Evidence
X44: Partnership with universities (0/1)	1 if the EAP has partnerships with universities regarding any educational programme; 0 if not	Evidence
X45: Case studies (0/1)	1 if the EAP provides national exports case studies for educational purposes; 0 if not	Evidence
X46: Access to international databases (0/1)	1 if the EAP provides national exporters the access to international databases; 0 if not	Evidence
X47: Foreign languages	Number of foreign languages available for training provided by the EAP.	Leonidou *et al.* (2011)
X48: Exchange platform (0/1)	1 if the EAP provides a digital platform where exporters can interact; 0 if not.	Evidence
X49: Library (0/1)	1 if the EAP provides academic content on exports; 0 if not	Leonidou *et al.* (2011)

D: Variable definition and empirical or evidence support for Group 4 (education and training) (cont.)

Variable	Variable definition	Literature or evidence support
X410: Counselling advice (0/1)	1 if the EAP provides counselling advice for a particular exporter; 0 if not.	Leonidou *et al.* (2011)
X411: Previous diagnostic (0/1)	1 if the EAP provides a diagnostic of what needs to improve in the exporting firm before starting the export process; 0 if not.	Evidence
X412: E-commerce education (0/1)	1 if the EAP provides information regarding e-commerce for national exporters; 0 if not	Evidence
X413: Software education (0/1)	1 if the EAP provides export relevant software certification for national exporters such as Oracle, Microsoft and other; 0 if not	Evidence
X414: Business plan (0/1)	1 if the EAP provides information on how to develop a business plan for exporting; 0 if not	Leonidou *et al.* (2011)
X415: Draft contract (0/1)	1 if the EAP provides a draft contract for exporters to adapt to their respective businesses; 0 if not.	Evidence
X416: Incubation (0/1)	1 if the EAP provides incubation services for national exporters; 0 if not	Evidence
X417: Recruitment of personnel (0/1)	1 if the EAP provides recruitment services for national exporters; 0 if not	Evidence
X418: Contests (0/1)	1 if the EAP provides export contests and rewards the best exporting firms; 0 if not	Evidence
X419: Testimonies (0/1)	1 if the EAP provides testimonies of previous exporters that used the programme; 0 if not	Evidence

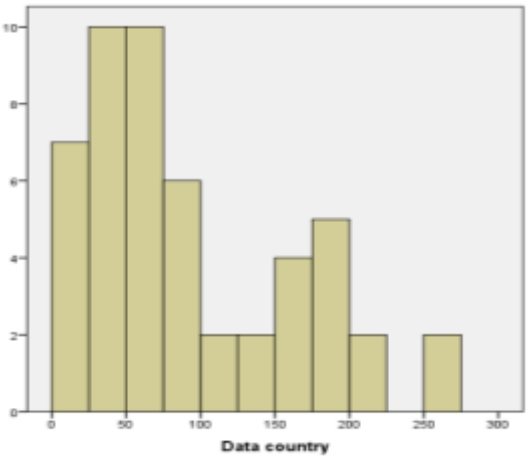
Notes:
*The data of the area of the countries was retrieved from World Bank (2016d).
** These variables comprise data on a one-year base. Data was collected for the full year of 2016 for the following countries: Argentina, Australia, Bangladesh, Brazil, Bulgaria, Canada, Chile, China, Czech Republic, Denmark, Ecuador, Germany, Ghana, Hong Kong, India, Iran, Israel, Italy, South Korea, Nigeria, Peru, Poland, Portugal, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, Spain, Thailand, Turkey, Ukraine, USA and Vietnam. For Austria, Greece, Taiwan and Tunisia data was collected for the full year of 2017. For Pakistan data was collected for the one-year period July 2017-July 2018. Some countries only make public event information for a limited number of months. In these cases, and to compute a whole year of activities, we conducted a simple rule of three, e.g. if in 7 months, Belgium firms can participate in 202 domestic trade fairs, in 12 months they can participate in 346 (202*12/7). This, and other special cases, are all detailed in Table E.

E: Special cases of variables X34, X35 and X41

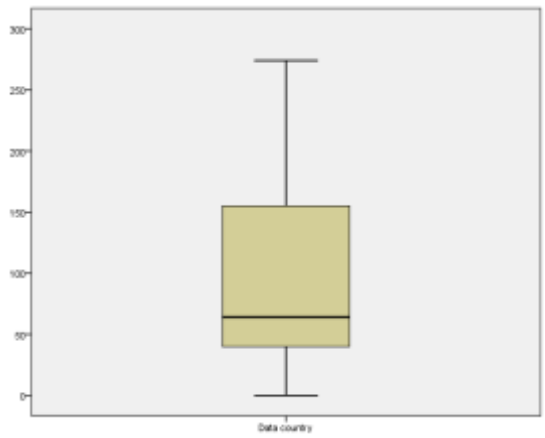
Country	X34: Number of domestic trade fairs in which domestic firms can participate annually.	X35: Number of foreign trade fairs in which domestic firms can participate annually.	X41: Number of seminars/ webinars/ conferences/ courses held annually in which domestic firms can participate.
Belgium	Data available only for the first 7 months of 2017. Rule of three applied.	Data available only for the first 7 months of 2017. Rule of three applied.	Data available only for the first 7 months of 2017. Rule of three applied.
Colombia	Full year of 2016	Full year of 2016	Data available for the period 15 June – 30 September 2017. Rule of three applied.
France	Full year of 2017	Full year of 2017	Data available for the period June – December 2017. Rule of three applied.
Japan	Full year of 2016	Full year of 2016	Data only available for May 2017. Rule of three applied.
Mexico	Full year of 2017	Full year of 2017	Data only available for May 2017. Rule of three applied.
Morocco	Full year of 2017	Full year of 2017	Full year of 2016
Netherlands	Data available from May to December 2017. Rule of three applied.	Data available from May to December 2017. Rule of three applied.	Data available from May to December 2017. Rule of three applied.
New Zealand	Full year of 2016	Full year of 2016	Full year of 2017
Sweden	Data available from July to November 2017. Rule of three applied.	Data available from July to November 2017. Rule of three applied.	Data available from July to November 2017. Rule of three applied.
Switzerland	Data available from July to December 2017. Rule of three applied.	Data available from July to December 2017. Rule of three applied.	Data available from July to December 2017. Rule of three applied.
UK	Data available from July to December 2017. Rule of three applied.	Data available from July to December 2017. Rule of three applied.	Full year of 2017

Graph A1: SPSS output of the univariate analysis for variable X21 (data country coverage)

A: Data country coverage's histogram

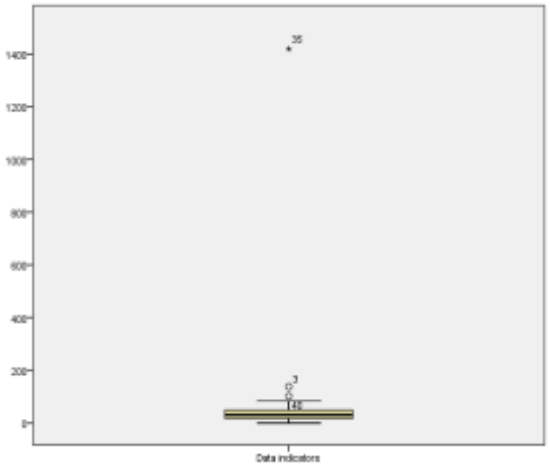


B: Data country coverage's box-plot

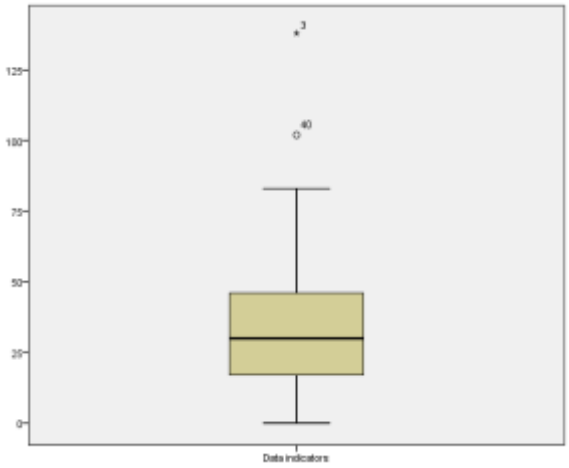


Graph A2: SPSS output of the univariate analysis for variable X22 (Data available in number of indicators)

A: Data available in number of indicators' box-plot with Saudi Arabia

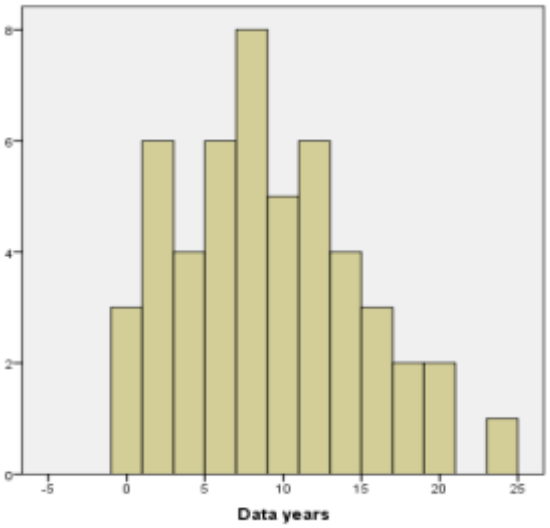


B: Data available in number of indicators' box-plot without Saudi Arabia

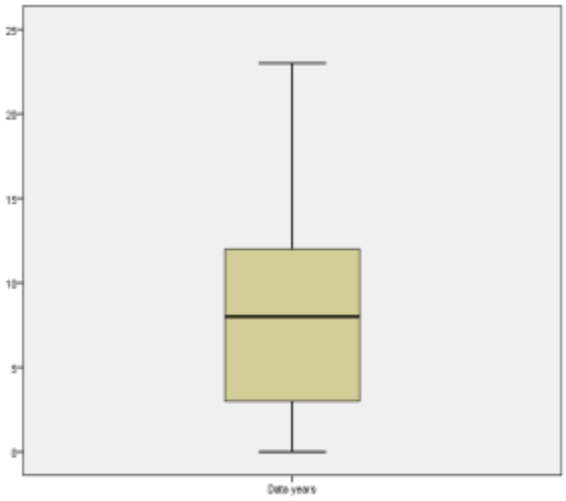


Graph A3: SPSS output of the univariate analysis for variable X24 (data available in number of years)

A: Data available in number of years' histogram

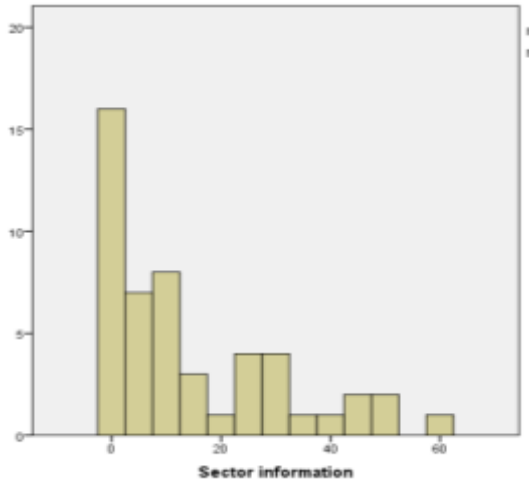


B: Data available in number of years' box-plot

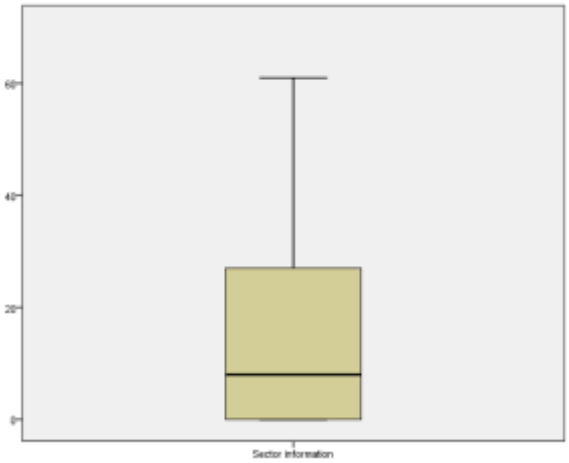


Graph A4: SPSS output of the univariate analysis for variable X26 (sector information)

A: Sector information's histogram

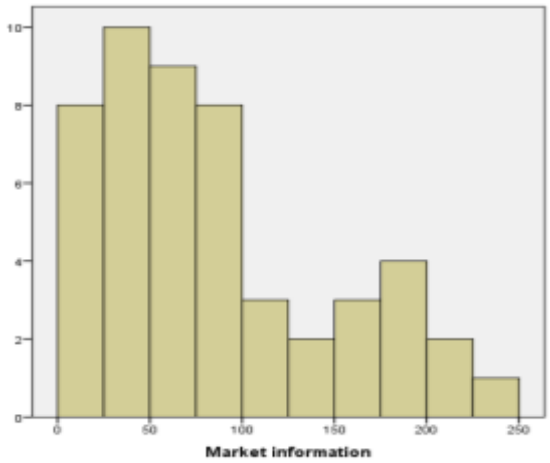


B: Sector information's box-plot

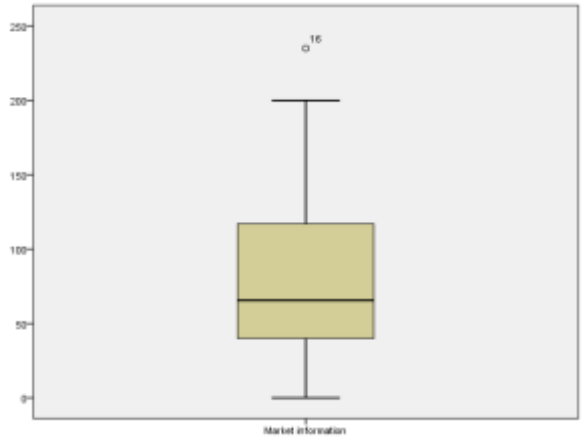


Graph A5: SPSS output of the univariate analysis for variable X27 (market information)

A: Market information's histogram with Germany

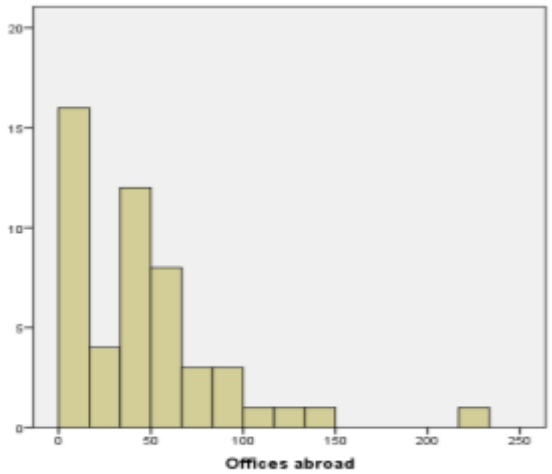


B: Market information's box-plot with Germany

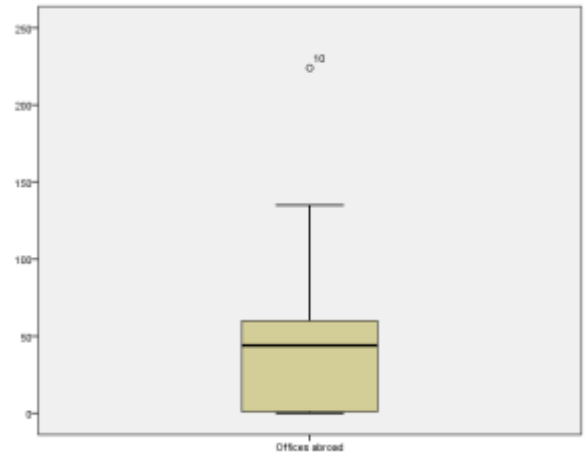


Graph A6: SPSS output of the univariate analysis for variable X31 (offices abroad)

A: Offices abroad's histogram with China

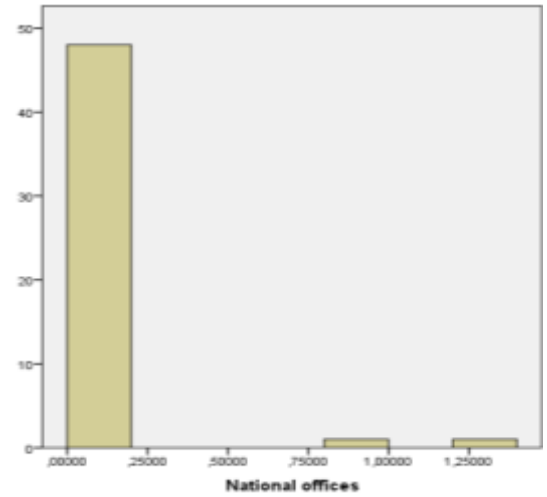


B: Offices abroad's box-plot with China

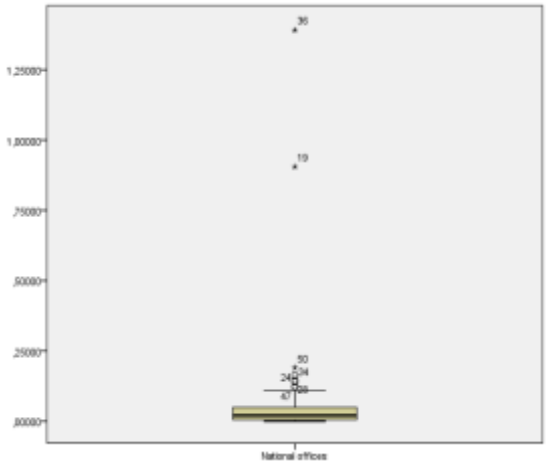


Graph A7: SPSS output of the univariate analysis for variable X33 (National offices)

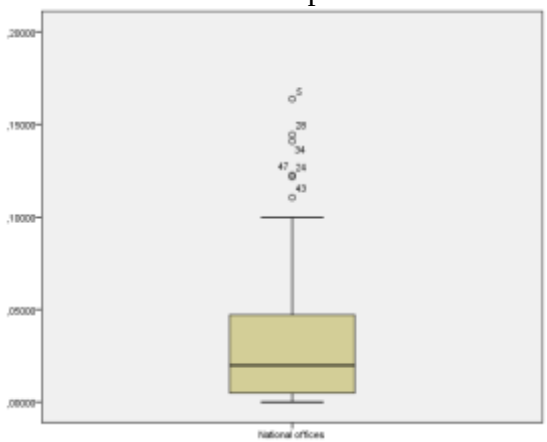
A: National offices' histogram with Singapore, Hong Kong, and Vietnam



B: National offices' box-plot with Singapore, Hong Kong, and Vietnam

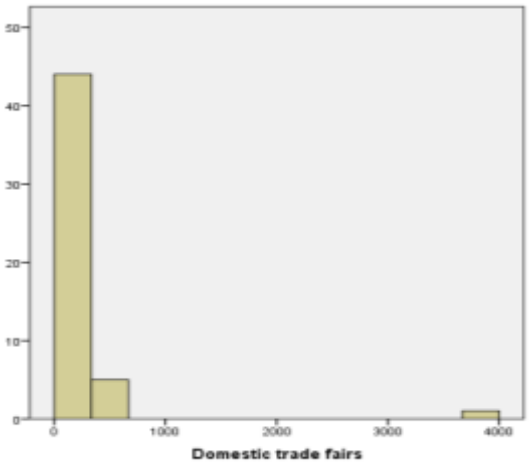


C: National offices' box-plot without outliers



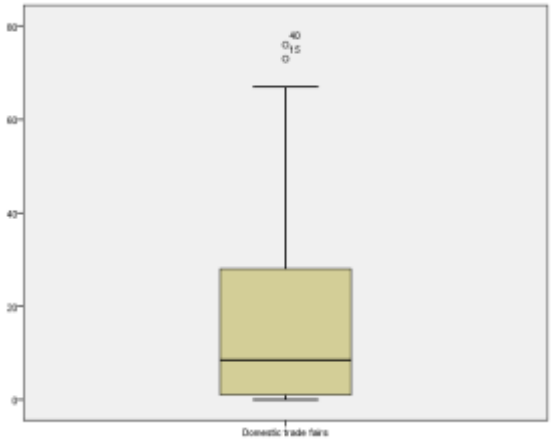
Graph A8: SPSS output of the univariate analysis for variable X34 (domestic trade fairs)

A: Domestic trade fairs' histogram China, Japan, Hong Kong, Turkey, Germany, Belgium, Brazil and Italy



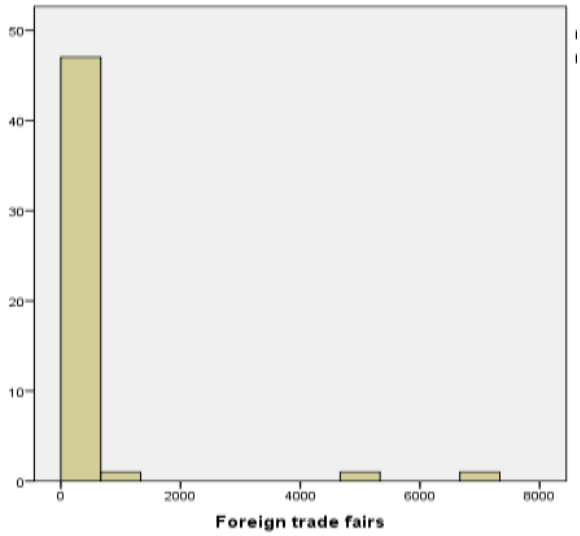
B: Domestic trade fairs' frequency box-plot with China, Japan, Hong Kong, Turkey, Germany, Belgium, Brazil and Italy

C: Domestic trade fairs' frequency box-plot without outliers

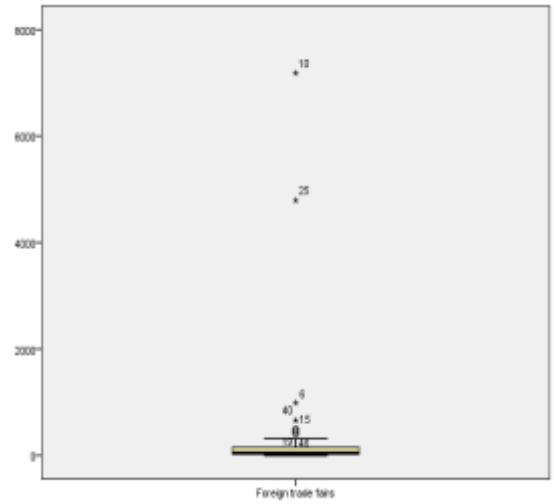


Graph A9: SPSS output of the univariate analysis for variable X35 (foreign trade fairs)

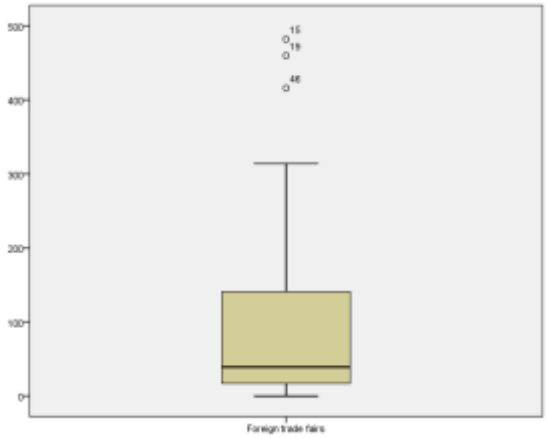
A: Foreign trade fairs' histogram with China, South Korea, Brazil and Spain



B: Foreign trade fairs' frequency box-plot with China, South Korea, Brazil and Spain

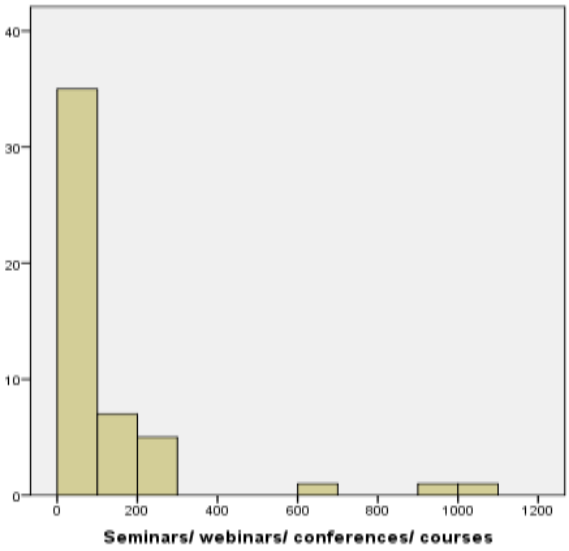


C: Foreign trade fairs' frequency box-plot without outliers

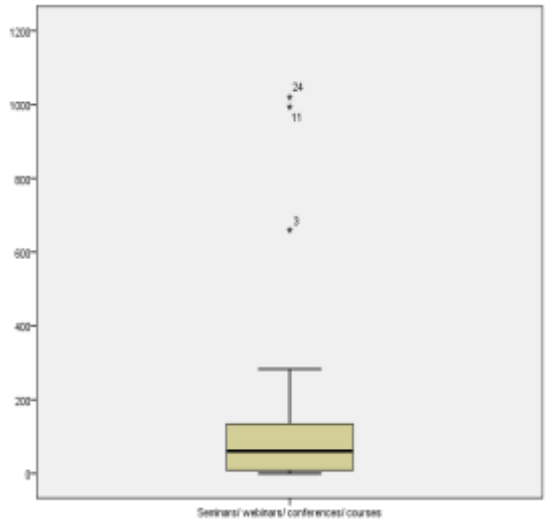


Graph A10: SPSS output of the univariate analysis for variable X41 (Seminars/ webinars/ conferences/ courses)

A: Seminars/ webinars/ conferences/ courses' histogram with Japan, Colombia and Austria



B: Seminars/ webinars/ conferences/ courses ' frequency box-plot with Japan, Colombia and Austria



C: Seminars/ webinars/ conferences/ courses ' frequency box-plot without outliers

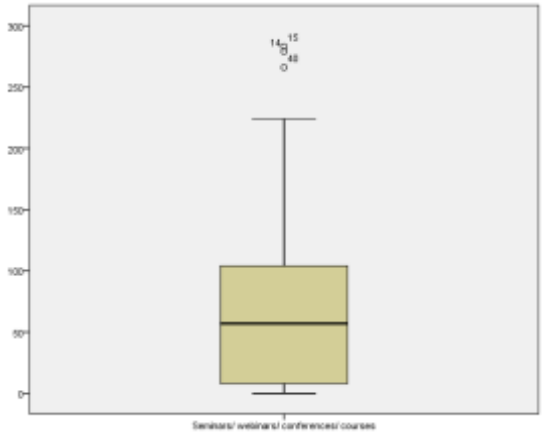
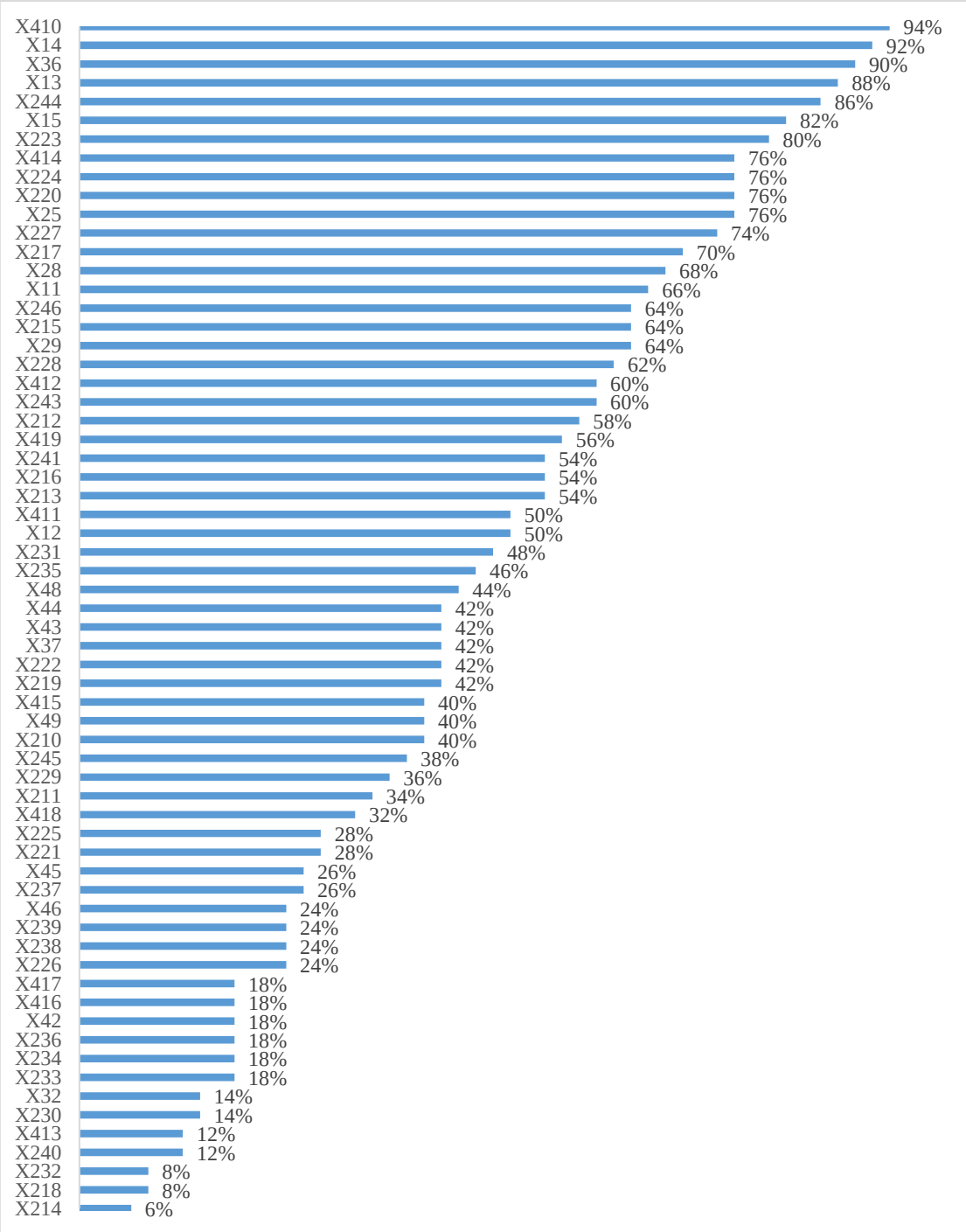


Table A3: SPSS output of the frequency table of the univariate analysis for variable X47 (foreign languages)

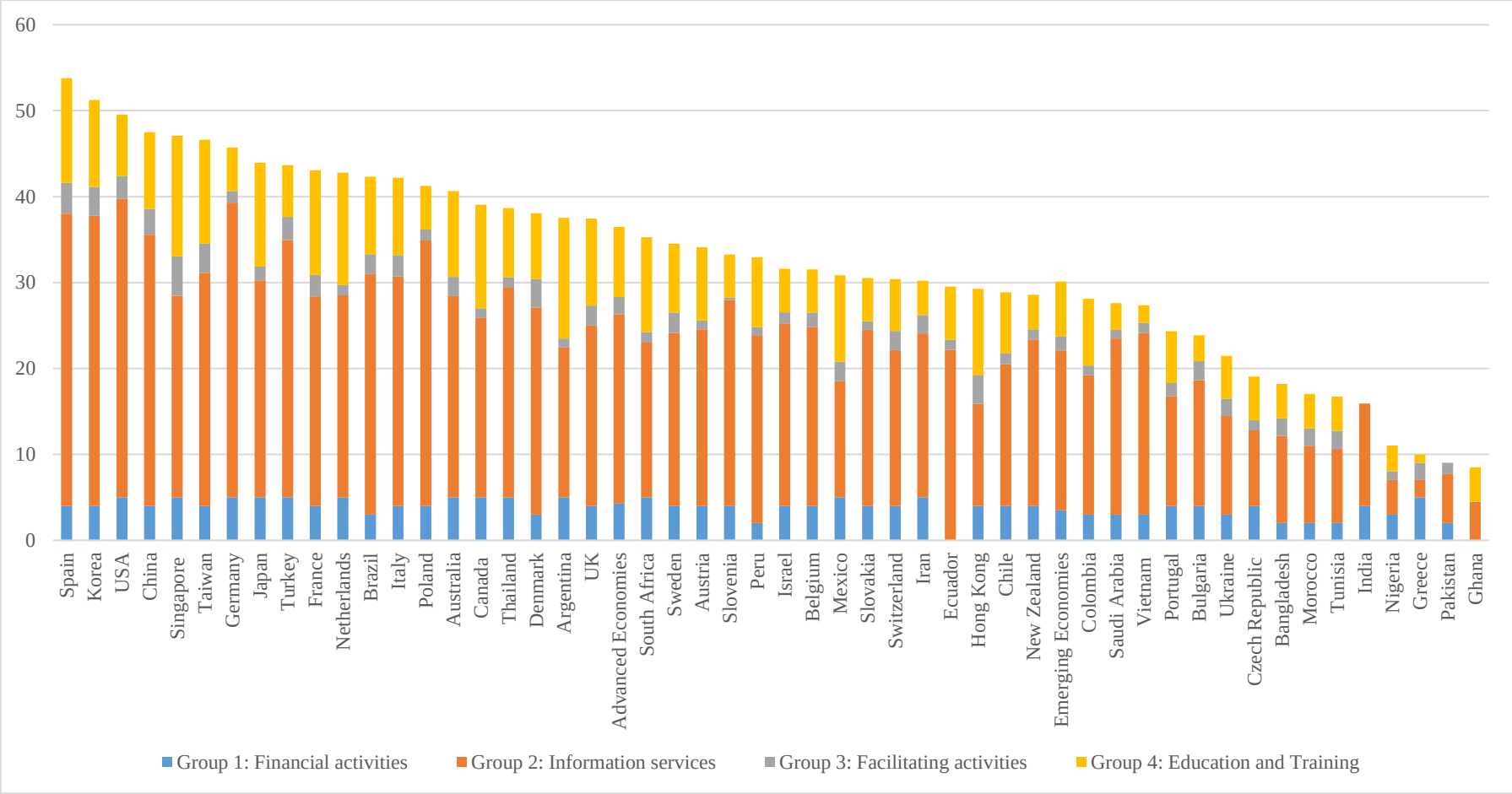
		Frequency	%	Valid %	Cumulative %
Valid	0	43	86,0	86,0	86,0
	1	4	8,0	8,0	94,0
	8	1	2,0	2,0	96,0
	10	1	2,0	2,0	98,0
	12	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

Graph A11: Adapted SPSS output of the univariate analysis for the 65 qualitative variables regarding the percentage of countries offering a certain service (i.e. variable assumes value 1)



Note: Regarding variable X23 (level of data aggregation), 6% of the countries assume value zero (they do not offer any data information), 68% of the countries offer data on a national level and 26% of the countries offer data on a national and state level.

Graph A12: Average score of all the export support services offered by country and by group



Note: An EAP fully complete would have a score of 77, e.g. would offer the 5 identified financial support activities, the 45 identified informational services (with a score of 2 in variable X23), the 7 facilitating activities and the 19 education and training services.

Table A4: SPAD output of the correlation table of the 11 quantitative variables regarding PCA

	X21	X22	X24	X26	X27	X31	X33	X34	X35	X41	X47
X21	1.00										
X22	0.20	1.00									
X24	0.35	0.23	1.00								
X26	0.38	0.08	0.06	1.00							
X27	0.75	0.27	0.15	0.34	1.00						
X31	0.32	0.08	0.26	0.27	0.39	1.00					
X33	-0.10	-0.06	-0.15	-0.09	-0.08	0.01	1.00				
X34	0.19	-0.01	-0.03	-0.06	0.26	0.64	0.01	1.00			
X35	0.15	0.03	0.11	-0.10	0.20	0.67	-0.01	0.81	1.00		
X41	0.15	0.24	0.19	0.10	0.19	0.11	-0.01	0.09	0.05	1.00	
X47	0.17	0.21	0.03	-0.10	0.24	0.40	-0.04	0.53	0.43	0.08	1.00

Table A5: SPAD output of the eigenvalues regarding PCA

Number	Eigenvalue	Percentage	Cumulative percentage
1	3.2960	29.96	29.96
2	1.9634	17.85	47.81
3	1.1843	10.77	58.58
4	1.0154	9.23	67.81
5	0.8943	8.13	75.94
6	0.8204	7.46	83.40
7	0.6899	6.27	89.67
8	0.5237	4.76	94.43
9	0.2813	2.56	96.99
10	0.1769	1.61	98.60
11	0.1545	1.40	100.00

Table A6: SPAD output of the countries' contributions for PCA

	Factor scores				Contributions				Squared cosines			
	1	2	3	4	1	2	3	4	1	2	3	4
Argentina	-0,56	0,5	-0,16	0,67	0,2	0,3	0	0,9	0,06	0,05	0,01	0,09
Australia	-0,34	0,39	0,88	0,31	0,1	0,2	1,3	0,2	0,07	0,09	0,47	0,06
Austria	1,75	3,41	-2,15	-1,69	1,9	11,9	7,8	5,6	0,11	0,42	0,17	0,1
Bangladesh	-1,21	0,02	1,6	0,23	0,9	0	4,3	0,1	0,2	0	0,36	0,01
Belgium	1,9	1,68	0,99	0,19	2,2	2,9	1,7	0,1	0,33	0,26	0,09	0
Brazil	-0,56	-0,56	-1,61	1,04	0,2	0,3	4,4	2,1	0,04	0,04	0,35	0,15
Bulgaria	-0,18	0,59	-0,11	0,78	0	0,4	0	1,2	0,02	0,17	0,01	0,3
Canada	0,45	1,03	0,52	0,17	0,1	1,1	0,5	0,1	0,03	0,15	0,04	0
Chile	-0,33	0,33	1,36	0,3	0,1	0,1	3,1	0,2	0,02	0,02	0,31	0,02
China	8,86	-5,84	0,37	0,52	47,7	34,8	0,2	0,5	0,68	0,3	0	0
Colombia	0,08	0,82	-2,2	-1,07	0	0,7	8,1	2,3	0	0,04	0,27	0,06
Czech Republic	-1	-0,5	-0,71	0,6	0,6	0,3	0,9	0,7	0,38	0,09	0,19	0,14
Denmark	0,88	-0,65	-1,82	0,19	0,5	0,4	5,6	0,1	0,06	0,03	0,24	0
Ecuador	-0,55	0,26	-0,21	-0,13	0,2	0,1	0,1	0	0,26	0,06	0,04	0,02
France	0,24	0,27	0,73	-0,07	0	0,1	0,9	0	0,01	0,02	0,12	0
Germany	1,45	1,46	0,84	-0,29	1,3	2,2	1,2	0,2	0,24	0,25	0,08	0,01
Ghana	-1,74	-1,13	0,73	0,18	1,8	1,3	0,9	0,1	0,37	0,16	0,07	0
Greece	-2,37	-1,71	0,36	0,46	3,4	3	0,2	0,4	0,58	0,3	0,01	0,02
Hong Kong	-0,6	-1,38	1,12	-3,2	0,2	1,9	2,1	20,2	0,02	0,12	0,08	0,65
India	-1,25	-0,44	0,15	0,61	1	0,2	0	0,7	0,47	0,06	0,01	0,11
Iran	0,13	1,34	2,39	-0,06	0	1,8	9,7	0	0	0,18	0,59	0
Israel	-0,45	0,21	-0,95	0,45	0,1	0	1,5	0,4	0,06	0,01	0,26	0,06
Italy	0,65	0,51	-0,09	0,36	0,3	0,3	0	0,3	0,19	0,11	0	0,06
Japan	1,08	0,34	-2,27	-1,51	0,7	0,1	8,7	4,5	0,06	0,01	0,26	0,12
South Korea	2,68	-0,89	-0,95	0,77	4,4	0,8	1,5	1,2	0,32	0,04	0,04	0,03
Mexico	-1,16	-1,08	0,75	0,24	0,8	1,2	0,9	0,1	0,31	0,27	0,13	0,01
Morocco	-1,08	-0,29	-0,09	0,58	0,7	0,1	0	0,7	0,43	0,03	0	0,12
Netherlands	-0,24	0,42	0,3	-0,31	0	0,2	0,1	0,2	0,02	0,04	0,02	0,02
New Zealand	-1,41	-1,11	-0,01	0,19	1,2	1,3	0	0,1	0,48	0,3	0	0,01
Nigeria	-1,59	-0,43	-2,25	-0,55	1,5	0,2	8,6	0,6	0,12	0,01	0,24	0,01
Pakistan	-1,18	-0,89	1,34	0,44	0,8	0,8	3	0,4	0,22	0,12	0,28	0,03
Peru	0,72	2,5	-0,33	0,82	0,3	6,3	0,2	1,3	0,03	0,42	0,01	0,04
Poland	-0,62	-0,15	-0,41	0,1	0,2	0	0,3	0	0,24	0,01	0,1	0,01
Portugal	0,83	0,65	0,48	-0,27	0,4	0,4	0,4	0,1	0,12	0,08	0,04	0,01
Saudi Arabia	-1,63	-0,67	-0,67	0,29	1,6	0,5	0,8	0,2	0,67	0,11	0,11	0,02
Singapore	-1,5	-2,05	0,78	-4,82	1,4	4,3	1	45,8	0,06	0,12	0,02	0,64
Slovakia	-1,59	-0,8	0,06	0,13	1,5	0,7	0	0	0,54	0,14	0	0
Slovenia	-0,75	-0,41	-0,01	0,46	0,3	0,2	0	0,4	0,42	0,13	0	0,16
South Africa	-0,89	-0,28	-0,81	0,87	0,5	0,1	1,1	1,5	0,19	0,02	0,15	0,18

Table A6: SPAD output of the countries' contributions for PCA (cont.)

	Factor scores				Contributions				Squared cosines			
	1	2	3	4	1	2	3	4	1	2	3	4
Spain	2,48	2,8	1,1	-0,85	3,7	8	2	1,4	0,32	0,41	0,06	0,04
Sweden	-0,43	-0,12	-0,37	0,57	0,1	0	0,2	0,6	0,1	0,01	0,08	0,18
Switzerland	-0,73	-0,16	-0,46	0,75	0,3	0	0,4	1,1	0,23	0,01	0,09	0,24
Taiwan	2,73	0,28	-1,28	-0,41	4,5	0,1	2,8	0,3	0,28	0	0,06	0,01
Thailand	-0,66	0,14	1,81	0,22	0,3	0	5,5	0,1	0,07	0	0,48	0,01
Tunisia	-1,76	-1,01	0,09	0,73	1,9	1	0	1	0,59	0,19	0	0,1
Turkey	2,42	1,78	1,85	0,35	3,6	3,2	5,8	0,2	0,44	0,24	0,26	0,01
UK	-0,49	-0,42	0,52	-0,32	0,1	0,2	0,5	0,2	0,09	0,06	0,09	0,04
Ukraine	-1,92	-1,01	-0,56	0,78	2,2	1	0,5	1,2	0,63	0,17	0,05	0,1
USA	2,41	2,26	0,14	0,39	3,5	5,2	0	0,3	0,37	0,33	0	0,01
Vietnam	-0,94	-0,01	-0,79	-0,2	0,5	0	1,1	0,1	0,31	0	0,22	0,01

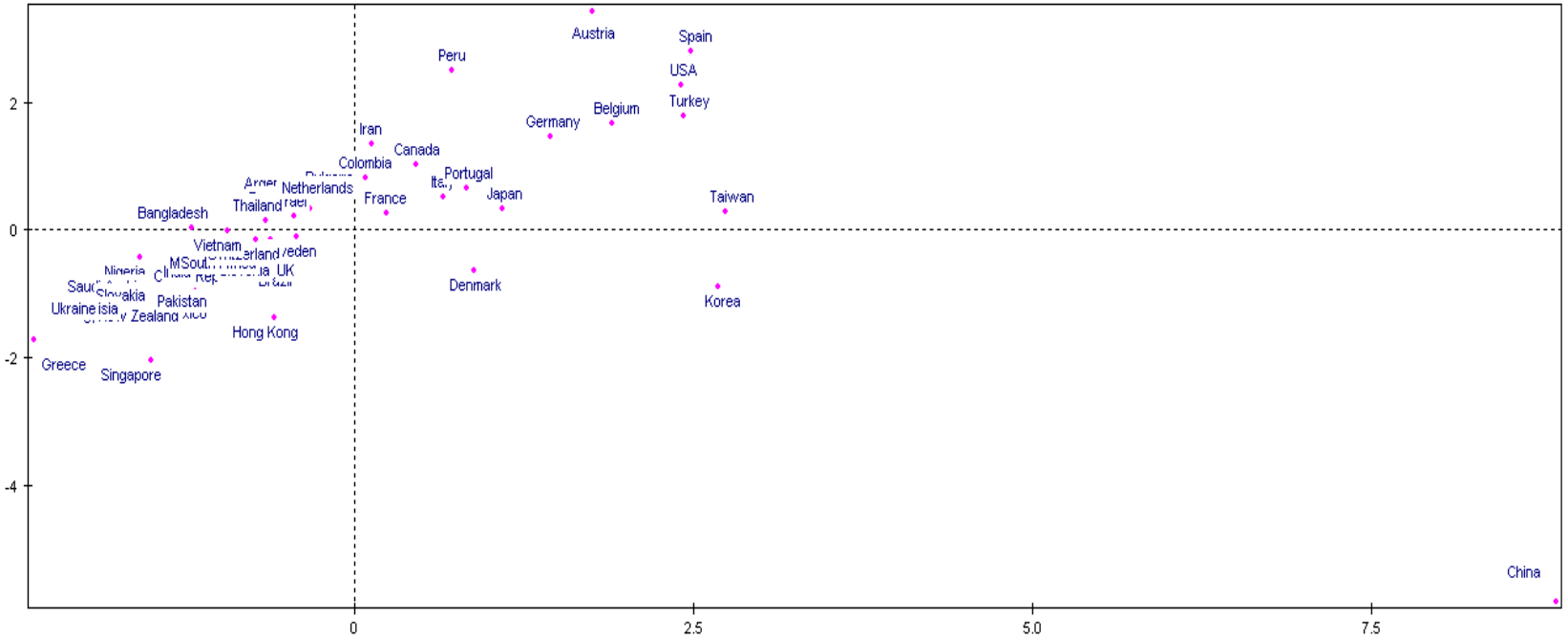
Table A7: SPAD output of the variables' correlations and normed eigenvalues for PCA

	Coordinates				Variable-Factor correlation				Normed eigenvalues			
	1	2	3	4	1	2	3	4	1	2	3	4
X21: Data country coverage	0,63	0,56	0,22	0	0,63	0,56	0,22	0	0,34	0,4	0,2	0
X22: Data available in number of indicators	0,29	0,37	-0,59	-0,2	0,29	0,37	-0,59	-0,2	0,16	0,26	-0,54	-0,2
X24: Data available in number of years	0,33	0,39	-0,4	0,3	0,33	0,39	-0,4	0,3	0,18	0,28	-0,36	0,3
X26: Sector information	0,26	0,56	0,51	-0,05	0,26	0,56	0,51	-0,05	0,14	0,4	0,47	-0,05
X27: Market information	0,67	0,46	0,22	-0,13	0,67	0,46	0,22	-0,13	0,37	0,33	0,2	-0,13
X31: Offices abroad	0,81	-0,17	0,16	0,03	0,81	-0,17	0,16	0,03	0,45	-0,12	0,14	0,03
X33: National offices	-0,09	-0,23	0,14	-0,85	-0,09	-0,23	0,14	-0,85	-0,05	-0,16	0,13	-0,84
X34: Domestic trade fairs	0,75	-0,54	0,06	0	0,75	-0,54	0,06	0	0,41	-0,39	0,06	0
X35: Foreign trade fairs	0,73	-0,53	-0,01	0,09	0,73	-0,53	-0,01	0,09	0,4	-0,38	-0,01	0,09
X41: Seminars/ webinars/ conferences/ courses	0,27	0,28	-0,46	-0,37	0,27	0,28	-0,46	-0,37	0,15	0,2	-0,43	-0,37
X47: Foreign languages	0,6	-0,33	-0,24	-0,02	0,6	-0,33	-0,24	-0,02	0,33	-0,23	-0,22	-0,02

Graph A13: Graphic representation of the countries and variables in the plan 1-2 of PCA

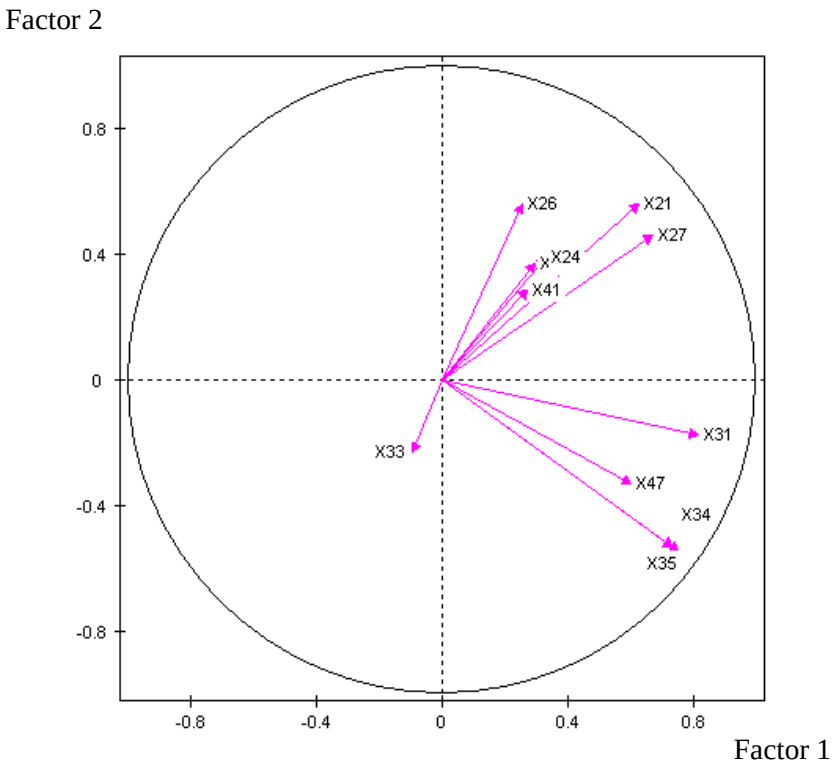
A: Graphic representation of the countries in the plan 1-2 of PCA

Factor 2



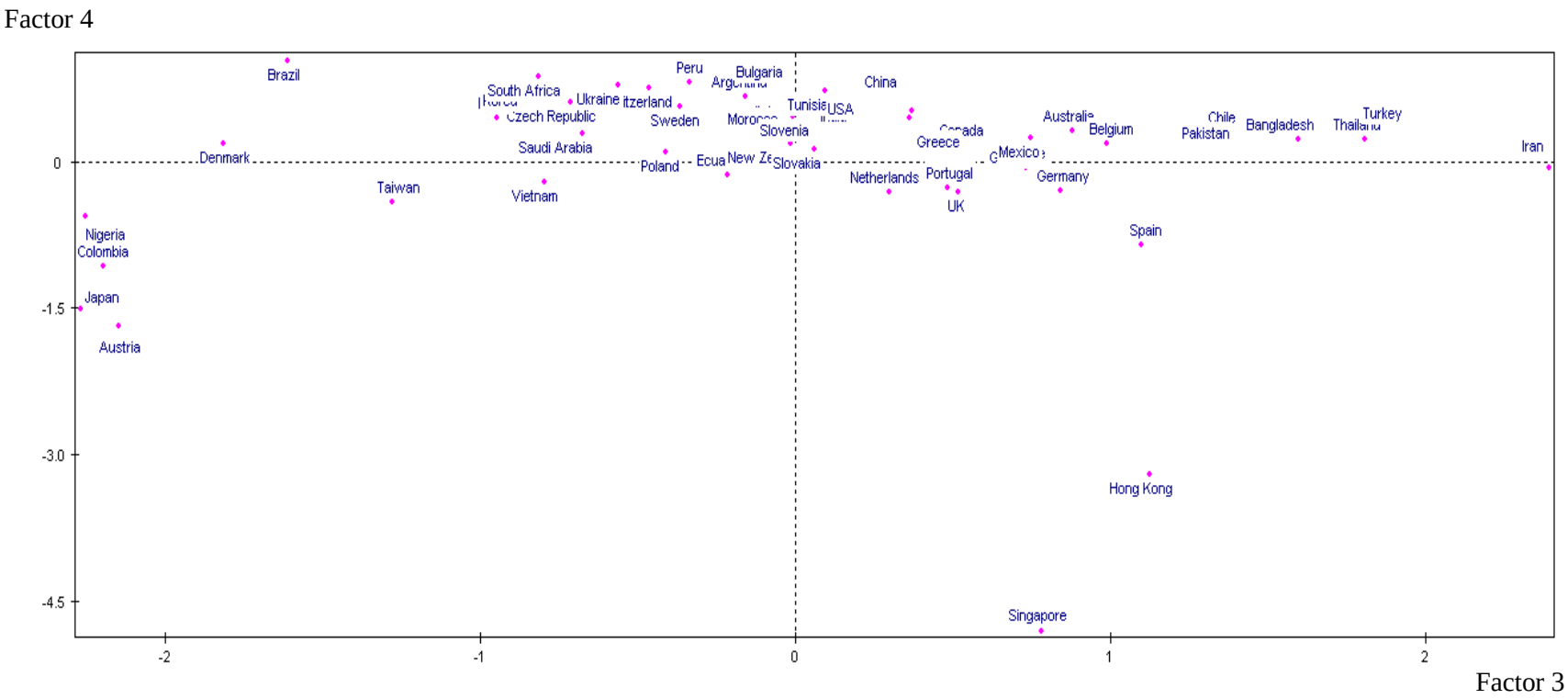
Factor 1

B: Graphic representation of the variables in the plan 1-2 of PCA



Graph A14: Graphic representation of the countries and variables in the plan 3-4 of PCA

A: Graphic representation of the countries in the plan 3-4 of PCA



B: Graphic representation of the variables in the plan 3-4 of PCA

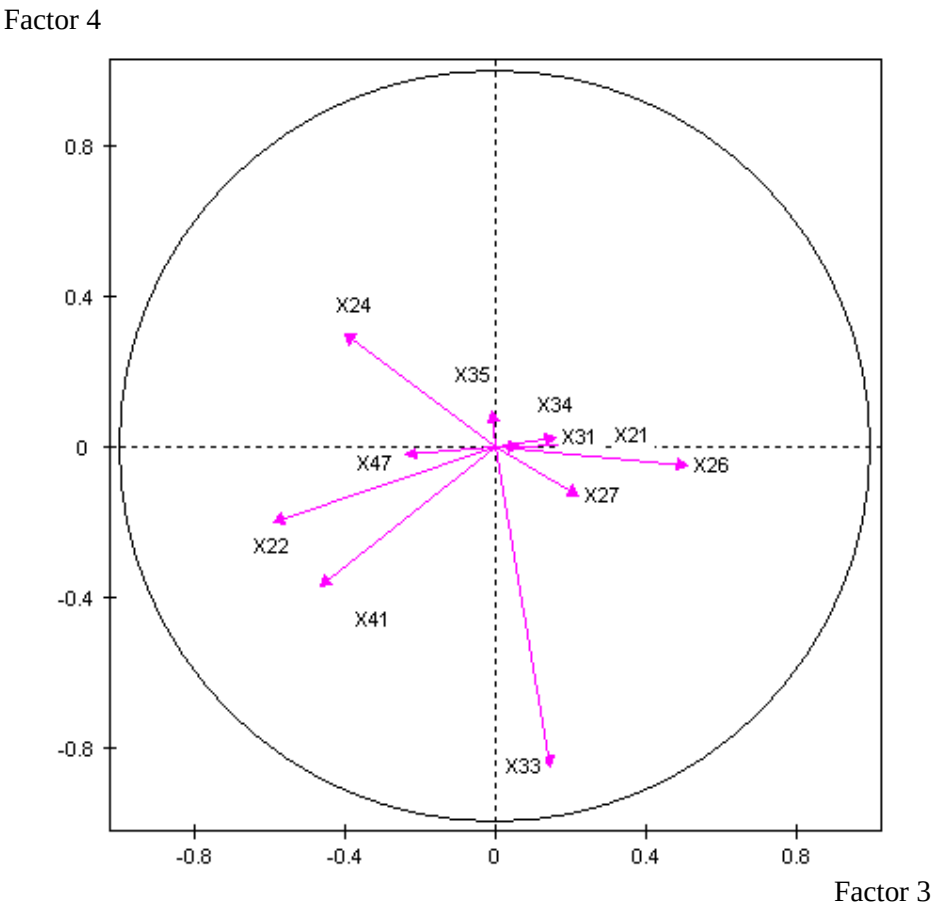


Table A8: SPAD output of the eigenvalues regarding MCA

Number	Eigenvalues	%	Cumulative %
1	0.1793	17.66	17.66
2	0.0683	6.73	24.38
3	0.0604	5.95	30.33
4	0.0519	5.11	35.44
5	0.0478	4.70	40.15
6	0.0443	4.36	44.51
7	0.0413	4.07	48.58
8	0.0384	3.79	52.36
9	0.0374	3.69	56.05
10	0.0333	3.28	59.32
11	0.0301	2.97	62.29
12	0.0285	2.81	65.10
13	0.0281	2.77	67.87
14	0.0250	2.47	70.33
15	0.0230	2.26	72.60
16	0.0227	2.24	74.83
17	0.0198	1.95	76.79
18	0.0197	1.94	78.73
19	0.0179	1.76	80.49
20	0.0160	1.58	82.07
21	0.0150	1.48	83.54
22	0.0143	1.41	84.95
23	0.0138	1.36	86.31
24	0.0132	1.30	87.62
25	0.0123	1.21	88.83
26	0.0103	1.01	89.84
27	0.0101	0.99	90.83
28	0.0099	0.98	91.81
29	0.0089	0.87	92.68
30	0.0081	0.80	93.48
31	0.0073	0.72	94.19
32	0.0069	0.68	94.87
33	0.0064	0.63	95.50
34	0.0060	0.59	96.10
35	0.0055	0.54	96.64
36	0.0052	0.52	97.16
37	0.0048	0.47	97.63
38	0.0041	0.41	98.04
39	0.0038	0.38	98.41
40	0.0027	0.27	98.68
41	0.0024	0.24	98.92
42	0.0023	0.23	99.15
43	0.0021	0.20	99.35
44	0.0017	0.16	99.52
45	0.0014	0.14	99.66
46	0.0012	0.12	99.78
47	0.0009	0.09	99.87
48	0.0007	0.07	99.94
49	0.0006	0.06	100.00

Table A9: SPAD output of the countries' contributions and squared cosines for MCA

A: SPAD output of the countries' contributions and squared cosines for MCA for Axis 1 to 5

	Factor scores					Contributions					Squared cosines				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Argentina	-0,07	-0,36	-0,23	-0,39	-0,04	0,1	3,8	1,8	5,7	0,1	0,01	0,13	0,05	0,15	0
Australia	-0,37	0,02	-0,13	0,39	0,21	1,5	0	0,6	5,9	1,8	0,14	0	0,02	0,16	0,04
Austria	-0,18	0,08	-0,42	0,41	0,41	0,4	0,2	5,9	6,6	7,2	0,03	0,01	0,17	0,16	0,16
Bangladesh	0,64	-0,12	0,06	0,05	-0,17	4,5	0,5	0,1	0,1	1,2	0,38	0,01	0	0	0,03
Belgium	0,05	0,26	-0,12	0,21	0,11	0	2	0,4	1,6	0,5	0	0,08	0,02	0,05	0,02
Brazil	-0,4	-0,08	-0,01	-0,33	0,03	1,8	0,2	0	4,1	0	0,16	0,01	0	0,11	0
Bulgaria	0,29	0,03	0,02	-0,08	0,11	0,9	0	0	0,3	0,5	0,11	0	0	0,01	0,01
Canada	-0,22	-0,25	0,06	0,01	0	0,5	1,8	0,1	0	0	0,06	0,07	0	0	0
Chile	0,03	-0,09	-0,28	0,09	-0,2	0	0,3	2,6	0,3	1,6	0	0,01	0,12	0,01	0,06
China	-0,53	0,28	0,44	0,29	-0,23	3,1	2,4	6,4	3,2	2,2	0,23	0,07	0,16	0,07	0,04
Colombia	0,21	0,05	-0,39	0,13	-0,38	0,5	0,1	5,2	0,7	6,1	0,05	0	0,18	0,02	0,16
Czech Republic	0,44	0,02	0,07	-0,36	0,4	2,2	0	0,2	4,9	6,6	0,21	0	0,01	0,14	0,17
Denmark	-0,3	-0,03	-0,5	-0,07	0,17	1	0	8,1	0,2	1,2	0,08	0	0,21	0	0,02
Ecuador	-0,01	0,46	-0,55	-0,25	-0,46	0	6,3	10	2,3	8,9	0	0,17	0,24	0,05	0,17
France	-0,35	-0,37	-0,17	0,04	-0,14	1,4	4,1	0,9	0,1	0,8	0,13	0,15	0,03	0	0,02
Germany	-0,5	0,44	0,39	-0,19	0,14	2,7	5,6	5	1,4	0,9	0,18	0,14	0,11	0,03	0,02
Ghana	0,95	0,17	0,02	0,03	-0,27	10,1	0,8	0	0	3,1	0,56	0,02	0	0	0,05
Greece	0,84	-0,07	0,25	0,08	0,47	7,8	0,1	2	0,3	9,3	0,49	0	0,04	0	0,16
Hong Kong	0,11	-0,24	-0,38	0,15	0,32	0,1	1,7	4,8	0,9	4,3	0,01	0,06	0,15	0,02	0,11
India	0,6	0,07	0,5	0,28	-0,03	4	0,1	8,3	3,1	0	0,3	0	0,21	0,07	0
Iran	0,18	-0,01	0,05	-0,37	0,25	0,4	0	0,1	5,2	2,6	0,04	0	0	0,15	0,07
Israel	0,01	0,23	-0,18	-0,25	0,04	0	1,6	1,1	2,4	0,1	0	0,05	0,03	0,06	0
Italy	-0,42	-0,1	0,24	0,13	-0,01	1,9	0,3	2	0,7	0	0,17	0,01	0,06	0,02	0
Japan	-0,34	-0,2	0,1	0,25	-0,15	1,3	1,2	0,3	2,3	0,9	0,15	0,05	0,01	0,08	0,03
South Korea	-0,65	0,26	0,25	0,26	-0,01	4,7	2	2,1	2,6	0	0,39	0,06	0,06	0,06	0
Mexico	0,17	-0,37	0,27	0,24	0,18	0,3	4,1	2,4	2,2	1,4	0,03	0,15	0,08	0,06	0,03
Morocco	0,59	-0,01	-0,01	-0,09	-0,02	3,9	0	0	0,3	0	0,37	0	0	0,01	0
Netherlands	-0,4	-0,15	-0,2	0,43	0,11	1,8	0,7	1,3	7,1	0,5	0,17	0,02	0,04	0,19	0,01
New Zealand	0,01	0,62	-0,43	-0,02	0,35	0	11,4	6	0	5	0	0,29	0,14	0	0,09
Nigeria	0,84	-0,04	-0,12	0,16	0,2	7,9	0	0,5	0,9	1,6	0,5	0	0,01	0,02	0,03
Pakistan	0,9	0,04	0,24	0,12	-0,04	9,1	0	1,9	0,5	0,1	0,64	0	0,04	0,01	0
Peru	0	0,26	0,07	-0,39	-0,33	0	2	0,2	5,8	4,5	0	0,06	0,01	0,14	0,1
Poland	-0,51	0,41	0,1	0,28	0,05	2,9	4,8	0,4	3,1	0,1	0,27	0,18	0,01	0,09	0
Portugal	0,44	-0,26	0,18	-0,04	-0,19	2,2	2	1,1	0,1	1,6	0,25	0,09	0,04	0	0,05
Saudi Arabia	0,08	0,11	-0,04	0,1	-0,23	0,1	0,3	0,1	0,4	2,1	0,01	0,02	0	0,01	0,08

A: SPAD output of the countries' contributions and squared cosines for MCA for Axis 1 to 5 (cont.)

	Factor scores					Contributions					Squared cosines				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Slovakia	0,12	0,08	0,11	0,03	-0,17	0,2	0,2	0,4	0	1,2	0,02	0,01	0,01	0	0,03
Slovenia	-0,02	0,24	0,13	-0,15	-0,3	0	1,7	0,5	0,9	3,8	0	0,06	0,02	0,02	0,09
South Africa	-0,04	-0,41	0,01	-0,12	-0,17	0	5	0	0,6	1,1	0	0,2	0	0,02	0,03
Spain	-0,64	-0,2	0,17	-0,46	0,04	4,5	1,2	0,9	8,1	0,1	0,31	0,03	0,02	0,16	0
Sweden	-0,21	-0,32	-0,09	-0,02	-0,24	0,5	3	0,3	0	2,5	0,05	0,12	0,01	0	0,07
Switzerland	0,12	-0,32	0,21	0,03	-0,04	0,2	2,9	1,5	0	0,1	0,02	0,14	0,07	0	0
Taiwan	-0,51	-0,22	0,2	-0,28	0,14	2,9	1,4	1,3	2,9	0,8	0,23	0,04	0,04	0,07	0,02
Thailand	-0,27	0	0,28	-0,03	-0,05	0,8	0	2,6	0	0,1	0,1	0	0,11	0	0
Tunisia	0,61	0,01	0	0,07	-0,13	4,1	0	0	0,2	0,7	0,29	0	0	0	0,01
Turkey	-0,39	0,14	0,33	0,05	-0,09	1,7	0,6	3,6	0,1	0,4	0,17	0,02	0,12	0	0,01
UK	-0,22	-0,33	-0,33	0,25	-0,1	0,5	3,1	3,6	2,4	0,4	0,06	0,14	0,14	0,08	0,01
Ukraine	0,24	0,18	-0,03	-0,46	0,37	0,6	1	0	8,2	5,6	0,07	0,04	0	0,25	0,16
USA	-0,51	0,36	0,18	-0,06	0,29	2,9	3,9	1,1	0,1	3,4	0,22	0,11	0,03	0	0,07
Vietnam	0,02	0,37	-0,24	0,01	-0,26	0	4	2	0	2,8	0	0,2	0,09	0	0,09

B: SPAD output of the countries' contributions and squared cosines for MCA for Axis 6 to 10

	Factor scores					Contributions					Squared cosines				
	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10
Argentina	0,31	0,01	-0,33	-0,33	0,01	4,3	0	5,5	5,9	0	0,09	0	0,11	0,11	0
Australia	0,16	-0,12	-0,02	-0,33	-0,32	1,2	0,7	0	5,8	6,2	0,03	0,02	0	0,11	0,11
Austria	-0,18	0,04	-0,08	-0,04	0,27	1,4	0,1	0,4	0,1	4,5	0,03	0	0,01	0	0,07
Bangladesh	-0,04	0,36	0,25	0,12	0,11	0,1	6,3	3,3	0,7	0,8	0	0,12	0,06	0,01	0,01
Belgium	0,14	0	0,37	0,14	-0,17	0,9	0	7,2	1	1,8	0,02	0	0,16	0,02	0,03
Brazil	-0,1	-0,08	0,27	-0,13	-0,07	0,4	0,3	3,7	0,9	0,3	0,01	0,01	0,07	0,02	0,01
Bulgaria	-0,11	0,11	0,03	0,19	0,11	0,6	0,6	0	1,9	0,7	0,02	0,02	0	0,04	0,01
Canada	0,34	-0,18	-0,3	-0,09	0,24	5,3	1,6	4,7	0,5	3,4	0,13	0,04	0,1	0,01	0,07
Chile	0,06	-0,27	-0,15	0,05	-0,09	0,2	3,5	1,2	0,1	0,5	0,01	0,11	0,03	0	0,01
China	-0,14	-0,15	-0,33	-0,04	0,06	0,8	1,1	5,8	0,1	0,2	0,02	0,02	0,09	0	0
Colombia	0,18	0,23	-0,08	-0,07	0,27	1,5	2,7	0,3	0,3	4,3	0,04	0,06	0,01	0,01	0,08
Czech Republic	0,14	-0,09	-0,03	0,27	0,17	0,8	0,4	0	4	1,7	0,02	0,01	0	0,08	0,03
Denmark	-0,31	-0,24	0,33	0,2	-0,18	4,2	2,8	5,7	2,1	1,9	0,08	0,05	0,09	0,03	0,03
Ecuador	-0,2	-0,23	0,1	-0,36	-0,14	1,8	2,6	0,5	7,1	1,3	0,03	0,04	0,01	0,1	0,02
France	-0,03	-0,11	0,16	0,1	-0,11	0	0,6	1,4	0,5	0,8	0	0,01	0,03	0,01	0,01
Germany	0,13	-0,29	0,21	0,12	0,29	0,8	4,1	2,3	0,7	4,9	0,01	0,06	0,03	0,01	0,06
Ghana	-0,09	-0,01	0,01	-0,45	0,05	0,3	0	0	10,8	0,2	0	0	0	0,12	0

B: SPAD output of the countries' contributions and squared cosines for MCA for Axis 6 to 10 (cont.)

	Factor scores					Contributions					Squared cosines				
	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10
Greece	-0,06	-0,06	-0,04	-0,06	0	0,2	0,2	0,1	0,2	0	0	0	0	0	0
Hong Kong	-0,29	-0,39	0,11	0,04	0	3,8	7,5	0,6	0,1	0	0,09	0,16	0,01	0	0
India	-0,05	-0,07	0,05	0,01	0,14	0,1	0,2	0,1	0	1,1	0	0	0	0	0,02
Iran	0,35	-0,21	0,05	0,1	-0,2	5,5	2,1	0,1	0,6	2,4	0,14	0,05	0	0,01	0,04
Israel	0,17	0,26	-0,32	0,24	0,2	1,4	3,2	5,4	3	2,5	0,03	0,06	0,1	0,05	0,04
Italy	-0,26	0,23	-0,5	-0,06	-0,22	3,1	2,6	13,2	0,2	3	0,07	0,05	0,25	0	0,05
Japan	0,25	-0,07	-0,02	0,15	-0,27	2,9	0,2	0	1,2	4,5	0,08	0,01	0	0,03	0,1
South Korea	-0,07	0,12	0,16	-0,3	-0,1	0,3	0,6	1,3	4,9	0,6	0,01	0,01	0,02	0,09	0,01
Mexico	0,14	0,04	0,24	-0,23	-0,11	0,9	0,1	3	2,9	0,7	0,02	0	0,06	0,06	0,01
Morocco	0,04	-0,1	0	-0,2	0,07	0,1	0,5	0	2,1	0,3	0	0,01	0	0,04	0,01
Netherlands	0,3	-0,1	-0,1	-0,07	0,18	4,1	0,5	0,5	0,3	2,1	0,09	0,01	0,01	0	0,03
New Zealand	0,11	0,39	-0,4	0	-0,27	0,5	7,4	8,5	0	4,3	0,01	0,11	0,12	0	0,05
Nigeria	-0,01	0,09	-0,01	-0,21	0,12	0	0,4	0	2,2	0,9	0	0,01	0	0,03	0,01
Pakistan	-0,16	-0,04	-0,01	-0,06	0,02	1,2	0,1	0	0,2	0	0,02	0	0	0	0
Peru	-0,04	-0,42	-0,03	-0,23	0	0,1	8,7	0,1	2,7	0	0	0,16	0	0,05	0
Poland	-0,12	0,14	0,01	0,09	0,21	0,7	0,9	0	0,5	2,7	0,02	0,02	0	0,01	0,05
Portugal	0,15	0,15	-0,01	0,12	-0,35	1	1,1	0	0,7	7,3	0,03	0,03	0	0,02	0,15
Saudi Arabia	-0,11	0	0,18	0,27	-0,02	0,6	0	1,7	3,9	0	0,02	0	0,05	0,12	0
Singapore	-0,13	0,23	0,04	-0,3	0,37	0,7	2,5	0,1	4,7	8,4	0,01	0,04	0	0,07	0,11
Slovakia	0,14	0,39	0,05	0,18	-0,26	0,8	7,3	0,1	1,6	4,2	0,02	0,16	0	0,03	0,07
Slovenia	0,46	0,21	0,32	0,04	0,17	9,8	2,1	5,5	0,1	1,7	0,22	0,05	0,11	0	0,03
South Africa	0,3	-0,08	-0,17	0,09	-0,19	4,1	0,3	1,5	0,4	2,3	0,1	0,01	0,03	0,01	0,04
Spain	-0,32	0,42	0,24	-0,18	0,12	4,6	8,6	2,9	1,6	0,9	0,08	0,14	0,04	0,02	0,01
Sweden	-0,19	0,02	-0,04	0,36	0,03	1,6	0	0,1	7	0,1	0,04	0	0	0,15	0
Switzerland	-0,05	-0,15	-0,11	0,27	-0,25	0,1	1,1	0,6	3,8	3,8	0	0,03	0,02	0,1	0,09
Taiwan	-0,48	0,27	-0,13	-0,05	-0,15	10,3	3,6	0,8	0,2	1,3	0,2	0,07	0,01	0	0,02
Thailand	-0,02	-0,24	-0,12	0,08	0,22	0	2,8	0,7	0,3	2,8	0	0,08	0,02	0,01	0,07
Tunisia	-0,47	0,02	-0,01	0,02	-0,13	10,2	0	0	0	1	0,18	0	0	0	0,01
Turkey	-0,12	-0,31	-0,11	0,13	0,13	0,7	4,8	0,6	0,8	1,1	0,02	0,11	0,01	0,02	0,02
UK	0,14	0,11	0,24	0,2	0,24	0,9	0,6	3	2	3,4	0,03	0,02	0,08	0,05	0,07
Ukraine	-0,05	-0,09	-0,15	0,13	0	0,1	0,4	1,2	0,8	0	0	0,01	0,03	0,02	0
USA	0,3	0,19	0,31	-0,21	-0,23	4	1,7	5	2,3	3,1	0,07	0,03	0,08	0,04	0,04
Vietnam	-0,13	0,09	-0,13	0,34	0,04	0,7	0,4	0,9	6	0,1	0,02	0,01	0,03	0,16	0

Table A10: SPAD output of the modalities' contributions and squared cosines for MCA

A: SPAD output of the modalities' contributions and squared cosines for MCA for axis 1 to 5

	Coordinates					**Contributions**					**Squared cosines**				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
11Y	-0,13	-0,06	-0,17	0	0,25	0,1	0,1	0,5	0	1,3	0,03	0,01	0,06	0	0,12
11N	0,26	0,12	0,33	0	-0,48	0,2	0,1	1	0	2,5	0,03	0,01	0,06	0	0,12
12Y	-0,19	-0,33	0,51	0,19	0,04	0,1	1,2	3,4	0,5	0	0,03	0,11	0,26	0,03	0
12N	0,19	0,33	-0,51	-0,19	-0,04	0,1	1,2	3,4	0,5	0	0,03	0,11	0,26	0,03	0
13Y	-0,12	-0,08	0,07	0,05	0,11	0,1	0,1	0,1	0,1	0,3	0,1	0,05	0,03	0,02	0,09
13N	0,85	0,58	-0,48	-0,36	-0,81	0,7	0,9	0,7	0,5	2,5	0,1	0,05	0,03	0,02	0,09
14Y	-0,12	-0,05	0,06	0,01	0,06	0,1	0	0,1	0	0,1	0,17	0,03	0,04	0	0,04
14N	1,4	0,56	-0,67	-0,17	-0,64	1,3	0,6	0,9	0,1	1,1	0,17	0,03	0,04	0	0,04
15Y	-0,23	-0,07	0,08	0,03	0,22	0,4	0,1	0,1	0	1,3	0,23	0,02	0,03	0	0,23
15N	1,03	0,32	-0,38	-0,12	-1,01	1,6	0,4	0,7	0,1	6	0,23	0,02	0,03	0	0,23
25Y	-0,43	0,05	-0,15	-0,1	0,01	1,2	0	0,4	0,2	0	0,59	0,01	0,07	0,03	0
25N	1,37	-0,15	0,47	0,33	-0,05	3,9	0,1	1,3	0,8	0	0,59	0,01	0,07	0,03	0
28Y	-0,42	0,12	-0,01	-0,27	-0,01	1	0,2	0	1,4	0	0,37	0,03	0	0,15	0
28N	0,89	-0,24	0,02	0,56	0,03	2,2	0,4	0	3	0	0,37	0,03	0	0,15	0
29Y	-0,26	0,32	0,19	-0,15	-0,12	0,4	1,4	0,6	0,5	0,3	0,12	0,18	0,06	0,04	0,02
29N	0,46	-0,56	-0,34	0,27	0,21	0,7	2,6	1	0,8	0,5	0,12	0,18	0,06	0,04	0,02
210Y	-0,5	0,54	-0,12	-0,27	0,17	0,9	2,6	0,1	0,9	0,4	0,17	0,19	0,01	0,05	0,02
210N	0,33	-0,36	0,08	0,18	-0,11	0,6	1,7	0,1	0,6	0,2	0,17	0,19	0,01	0,05	0,02
211Y	-0,8	0,04	0,08	0,32	0,39	1,9	0	0,1	1	1,6	0,33	0	0	0,05	0,08
211N	0,41	-0,02	-0,04	-0,17	-0,2	1	0	0	0,5	0,8	0,33	0	0	0,05	0,08
212Y	-0,61	0,29	-0,11	0,18	-0,12	1,8	1,1	0,2	0,5	0,2	0,51	0,11	0,02	0,04	0,02
212N	0,84	-0,39	0,16	-0,24	0,16	2,5	1,5	0,3	0,7	0,3	0,51	0,11	0,02	0,04	0,02
213Y	-0,54	0,23	-0,21	0,06	-0,22	1,3	0,7	0,6	0,1	0,8	0,34	0,06	0,05	0	0,06
213N	0,63	-0,27	0,25	-0,07	0,26	1,6	0,8	0,7	0,1	1	0,34	0,06	0,05	0	0,06
214Y	0,58	0,9	-0,42	0,12	0,07	0,2	1,1	0,3	0	0	0,02	0,05	0,01	0	0
214N	-0,04	-0,06	0,03	-0,01	0	0	0,1	0	0	0	0,02	0,05	0,01	0	0
215Y	-0,51	-0,02	0,01	0,19	-0,15	1,4	0	0	0,7	0,4	0,47	0	0	0,07	0,04
215N	0,91	0,03	-0,01	-0,35	0,26	2,6	0	0	1,3	0,8	0,47	0	0	0,07	0,04
216Y	-0,55	-0,01	-0,17	0,14	0,02	1,4	0	0,4	0,3	0	0,35	0	0,03	0,02	0
216N	0,64	0,01	0,2	-0,16	-0,02	1,6	0	0,5	0,4	0	0,35	0	0,03	0,02	0
217Y	-0,47	0,09	-0,15	-0,03	-0,11	1,3	0,1	0,4	0	0,3	0,51	0,02	0,05	0	0,03
217N	1,1	-0,21	0,35	0,06	0,25	3,1	0,3	0,9	0	0,6	0,51	0,02	0,05	0	0,03
218Y	-0,96	0,59	1,24	0,17	-0,21	0,6	0,6	3,1	0,1	0,1	0,08	0,03	0,13	0	0
218N	0,08	-0,05	-0,11	-0,01	0,02	0,1	0,1	0,3	0	0	0,08	0,03	0,13	0	0
219Y	-0,44	0,47	-0,31	0,31	-0,01	0,7	2,1	1	1,2	0	0,14	0,16	0,07	0,07	0
219N	0,32	-0,34	0,22	-0,22	0,01	0,5	1,5	0,7	0,8	0	0,14	0,16	0,07	0,07	0

A: SPAD output of the modalities' contributions and squared cosines for MCA for axis 1 to 5 (cont.)

	Coordinates					Contributions					Squared cosines				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
220Y	-0,37	0,01	-0,04	-0,06	-0,14	0,9	0	0	0,1	0,5	0,43	0	0	0,01	0,06
220N	1,16	-0,04	0,12	0,2	0,44	2,8	0	0,1	0,3	1,5	0,43	0	0	0,01	0,06
221Y	-0,48	0,31	0,18	-0,88	0,6	0,6	0,6	0,2	6,4	3,2	0,09	0,04	0,01	0,3	0,14
222N	0,19	-0,12	-0,07	0,34	-0,23	0,2	0,2	0,1	2,5	1,3	0,09	0,04	0,01	0,3	0,14
222Y	-0,46	-0,16	-0,07	-0,19	-0,36	0,8	0,2	0,1	0,5	1,7	0,15	0,02	0	0,03	0,09
222N	0,33	0,12	0,05	0,14	0,26	0,5	0,2	0	0,3	1,3	0,15	0,02	0	0,03	0,09
223Y	-0,33	-0,01	-0,12	-0,04	-0,14	0,8	0	0,3	0	0,5	0,45	0	0,05	0,01	0,08
223N	1,34	0,05	0,46	0,15	0,56	3,1	0	1,1	0,1	2	0,45	0	0,05	0,01	0,08
224Y	-0,4	0,04	-0,02	-0,15	0	1	0	0	0,5	0	0,49	0,01	0	0,07	0
224N	1,25	-0,13	0,07	0,49	-0,01	3,2	0,1	0	1,7	0	0,49	0,01	0	0,07	0
225Y	-0,38	0,3	0,11	-1,07	0,15	0,4	0,6	0,1	9,6	0,2	0,06	0,03	0	0,45	0,01
225N	0,15	-0,12	-0,04	0,42	-0,06	0,1	0,2	0	3,7	0,1	0,06	0,03	0	0,45	0,01
226Y	-0,66	-0,3	0,04	0,33	-0,11	0,9	0,5	0	0,8	0,1	0,14	0,03	0	0,03	0
226N	0,21	0,09	-0,01	-0,1	0,04	0,3	0,2	0	0,2	0	0,14	0,03	0	0,03	0
227Y	-0,02	-0,01	0,32	-0,03	-0,23	0	0	2	0	1,2	0	0	0,3	0	0,15
227N	0,05	0,03	-0,92	0,1	0,64	0	0	5,7	0,1	3,5	0	0	0,3	0	0,15
228Y	-0,41	-0,16	0,17	0,34	0,14	0,9	0,4	0,4	2,1	0,4	0,27	0,04	0,05	0,18	0,03
228N	0,66	0,26	-0,27	-0,55	-0,23	1,4	0,6	0,7	3,4	0,6	0,27	0,04	0,05	0,18	0,03
229Y	-0,75	0,03	0,6	-0,13	-0,03	1,8	0	3,3	0,2	0	0,32	0	0,2	0,01	0
229N	0,42	-0,02	-0,34	0,07	0,02	1	0	1,9	0,1	0	0,32	0	0,2	0,01	0
230Y	-0,88	0,27	0,16	-0,8	-0,33	0,9	0,2	0,1	2,7	0,5	0,13	0,01	0	0,1	0,02
230N	0,14	-0,04	-0,03	0,13	0,05	0,2	0	0	0,4	0,1	0,13	0,01	0	0,1	0,02
231Y	-0,22	-0,38	-0,02	-0,18	-0,15	0,2	1,5	0	0,4	0,4	0,04	0,13	0	0,03	0,02
231N	0,2	0,35	0,02	0,16	0,14	0,2	1,4	0	0,4	0,3	0,04	0,13	0	0,03	0,02
232Y	-0,49	1	0,7	-1,1	0,4	0,2	1,8	1	2,9	0,4	0,02	0,09	0,04	0,11	0,01
232N	0,04	-0,09	-0,06	0,1	-0,03	0	0,2	0,1	0,2	0	0,02	0,09	0,04	0,11	0,01
233Y	-0,55	0,53	0,86	0,52	0,2	0,5	1,1	3,4	1,4	0,2	0,07	0,06	0,16	0,06	0,01
233N	0,12	-0,12	-0,19	-0,11	-0,04	0,1	0,3	0,7	0,3	0	0,07	0,06	0,16	0,06	0,01
234Y	-0,7	0,85	-0,2	0,76	0,23	0,7	2,9	0,2	3,1	0,3	0,11	0,16	0,01	0,13	0,01
234N	0,15	-0,19	0,04	-0,17	-0,05	0,2	0,6	0	0,7	0,1	0,11	0,16	0,01	0,13	0,01
235Y	-0,4	0,17	0,15	-0,26	-0,52	0,6	0,3	0,3	0,9	3,9	0,13	0,02	0,02	0,06	0,23
235N	0,34	-0,14	-0,13	0,22	0,44	0,5	0,2	0,2	0,8	3,4	0,13	0,02	0,02	0,06	0,23
236Y	-0,93	0,53	-0,13	0,89	0,62	1,3	1,1	0,1	4,2	2,3	0,19	0,06	0	0,17	0,09
236N	0,21	-0,12	0,03	-0,2	-0,14	0,3	0,3	0	0,9	0,5	0,19	0,06	0	0,17	0,09
237Y	-0,56	0,6	-0,64	0,1	0,52	0,7	2,1	2,7	0,1	2,2	0,11	0,12	0,15	0	0,09
237N	0,2	-0,21	0,23	-0,04	-0,18	0,2	0,7	1	0	0,8	0,11	0,12	0,15	0	0,09
238Y	-0,77	0,58	0,02	0,45	-0,21	1,2	1,8	0	1,5	0,3	0,19	0,11	0	0,06	0,01
238N	0,24	-0,18	-0,01	-0,14	0,07	0,4	0,6	0	0,5	0,1	0,19	0,11	0	0,06	0,01

A: SPAD output of the modalities' contributions and squared cosines for MCA for axis 1 to 5 (cont.)

	Coordinates					Contributions					Squared cosines				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
239Y	-0,95	0,72	0,5	0,25	0,24	1,9	2,8	1,5	0,4	0,4	0,29	0,16	0,08	0,02	0,02
239N	0,3	-0,23	-0,16	-0,08	-0,08	0,6	0,9	0,5	0,1	0,1	0,29	0,16	0,08	0,02	0,02
240Y	-0,89	0,34	-0,04	-0,19	0,92	0,8	0,3	0	0,1	3,3	0,11	0,02	0	0,01	0,12
240N	0,12	-0,05	0,01	0,03	-0,13	0,1	0	0	0	0,4	0,11	0,02	0	0,01	0,12
241Y	-0,6	-0,17	0,13	0,22	-0,08	1,7	0,4	0,2	0,8	0,1	0,43	0,04	0,02	0,06	0,01
241N	0,71	0,2	-0,15	-0,26	0,09	2	0,4	0,3	0,9	0,1	0,43	0,04	0,02	0,06	0,01
243Y	-0,12	-0,28	0,36	0,12	-0,16	0,1	1,1	2	0,3	0,5	0,02	0,12	0,2	0,02	0,04
243N	0,18	0,42	-0,55	-0,19	0,25	0,1	1,6	3,1	0,4	0,8	0,02	0,12	0,2	0,02	0,04
244Y	-0,05	-0,05	0,04	0,12	-0,21	0	0	0	0,4	1,2	0,02	0,01	0,01	0,09	0,28
244N	0,34	0,3	-0,24	-0,75	1,3	0,1	0,3	0,2	2,3	7,7	0,02	0,01	0,01	0,09	0,28
245Y	-0,05	-0,28	-0,16	-0,07	-0,21	0	0,7	0,2	0,1	0,5	0	0,05	0,02	0	0,03
245N	0,03	0,17	0,1	0,04	0,13	0	0,4	0,1	0	0,3	0	0,05	0,02	0	0,03
246Y	0,06	-0,15	0,54	-0,15	0,03	0	0,3	4,7	0,4	0	0,01	0,04	0,52	0,04	0
246N	-0,11	0,27	-0,96	0,27	-0,05	0	0,6	8,4	0,8	0	0,01	0,04	0,52	0,04	0
32Y	-0,56	-1,01	-0,34	-0,44	-0,07	0,4	3,2	0,4	0,8	0	0,05	0,17	0,02	0,03	0
32N	0,09	0,16	0,05	0,07	0,01	0,1	0,5	0,1	0,1	0	0,05	0,17	0,02	0,03	0
36Y	-0,05	-0,09	-0,11	-0,01	0,12	0	0,2	0,3	0	0,4	0,02	0,07	0,1	0	0,12
36N	0,47	0,78	0,95	0,05	-1,06	0,2	1,4	2,3	0	3,6	0,02	0,07	0,1	0	0,12
37Y	-0,2	-0,25	0,18	-0,27	0,4	0,2	0,6	0,4	0,9	2,2	0,03	0,05	0,02	0,05	0,12
37N	0,15	0,18	-0,13	0,2	-0,29	0,1	0,4	0,3	0,7	1,6	0,03	0,05	0,02	0,05	0,12
42Y	-0,74	-1,06	0,14	-0,23	0,21	0,8	4,5	0,1	0,3	0,3	0,12	0,25	0	0,01	0,01
42N	0,16	0,23	-0,03	0,05	-0,05	0,2	1	0	0,1	0,1	0,12	0,25	0	0,01	0,01
43Y	-0,53	0,07	0,02	-0,19	-0,02	1	0	0	0,4	0	0,21	0	0	0,03	0
43N	0,39	-0,05	-0,02	0,14	0,01	0,7	0	0	0,3	0	0,21	0	0	0,03	0
44Y	-0,68	-0,48	-0,17	0,11	0,38	1,7	2,2	0,3	0,1	2	0,33	0,17	0,02	0,01	0,11
44N	0,49	0,35	0,13	-0,08	-0,28	1,2	1,6	0,2	0,1	1,4	0,33	0,17	0,02	0,01	0,11
45Y	-0,49	-0,72	-0,27	0,06	0,12	0,5	3,1	0,5	0	0,1	0,09	0,18	0,03	0	0,01
45N	0,17	0,25	0,09	-0,02	-0,04	0,2	1,1	0,2	0	0	0,09	0,18	0,03	0	0,01
46Y	0,02	-0,42	-0,33	-0,22	-0,34	0	1	0,7	0,3	0,9	0	0,06	0,03	0,02	0,04
46N	-0,01	0,13	0,1	0,07	0,11	0	0,3	0,2	0,1	0,3	0	0,06	0,03	0,02	0,04
48Y	-0,4	-0,2	0,08	-0,29	0,23	0,6	0,4	0,1	1,1	0,7	0,13	0,03	0,01	0,07	0,04
48N	0,31	0,16	-0,06	0,23	-0,18	0,5	0,3	0,1	0,9	0,6	0,13	0,03	0,01	0,07	0,04
49Y	-0,5	-0,31	0,13	0,37	-0,07	0,9	0,8	0,2	1,6	0,1	0,17	0,06	0,01	0,09	0
49N	0,34	0,2	-0,09	-0,25	0,05	0,6	0,6	0,1	1,1	0	0,17	0,06	0,01	0,09	0
410Y	-0,12	0	-0,09	-0,04	-0,04	0,1	0	0,2	0,1	0	0,22	0	0,11	0,03	0,02
410N	1,84	0,04	1,34	0,7	0,62	1,7	0	2,7	0,9	0,7	0,22	0	0,11	0,03	0,02
411Y	-0,13	-0,1	-0,26	0,08	-0,33	0,1	0,1	0,9	0,1	1,8	0,02	0,01	0,07	0,01	0,11
411N	0,13	0,1	0,26	-0,08	0,33	0,1	0,1	0,9	0,1	1,8	0,02	0,01	0,07	0,01	0,11

A: SPAD output of the modalities' contributions and squared cosines for MCA for axis 1 to 5 (cont.)

	Coordinates					Contributions					Squared cosines				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
412Y	-0,48	-0,13	-0,1	0,13	-0,19	1,2	0,2	0,2	0,3	0,7	0,35	0,03	0,01	0,02	0,06
412N	0,72	0,2	0,15	-0,19	0,29	1,8	0,4	0,2	0,4	1,1	0,35	0,03	0,01	0,02	0,06
413Y	0,15	-0,43	-0,98	-0,07	0,22	0	0,5	2,9	0	0,2	0	0,02	0,13	0	0,01
413N	-0,02	0,06	0,13	0,01	-0,03	0	0,1	0,4	0	0	0	0,02	0,13	0	0,01
414Y	-0,32	-0,17	0,08	-0,06	0,15	0,7	0,5	0,1	0,1	0,6	0,33	0,1	0,02	0,01	0,07
414N	1,02	0,55	-0,26	0,19	-0,48	2,1	1,6	0,4	0,3	1,8	0,33	0,1	0,02	0,01	0,07
415Y	-0,38	-0,08	0,39	0,03	-0,11	0,5	0,1	1,6	0	0,2	0,1	0	0,1	0	0,01
415N	0,25	0,05	-0,26	-0,02	0,07	0,3	0	1	0	0,1	0,1	0	0,1	0	0,01
416Y	-0,52	-0,77	-0,76	-0,8	-0,15	0,4	2,4	2,6	3,4	0,1	0,06	0,13	0,13	0,14	0
416N	0,11	0,17	0,17	0,18	0,03	0,1	0,5	0,6	0,8	0	0,06	0,13	0,13	0,14	0
417Y	-0,58	-1,22	0,1	-0,63	-0,29	0,5	6,1	0	2,1	0,5	0,07	0,33	0	0,09	0,02
417N	0,13	0,27	-0,02	0,14	0,06	0,1	1,3	0	0,5	0,1	0,07	0,33	0	0,09	0,02
418Y	-0,29	-0,55	-0,27	0,35	0,24	0,2	2,2	0,6	1,2	0,6	0,04	0,14	0,04	0,06	0,03
418N	0,14	0,26	0,13	-0,17	-0,12	0,1	1	0,3	0,6	0,3	0,04	0,14	0,04	0,06	0,03
419Y	-0,18	-0,38	-0,21	0,18	-0,14	0,2	1,8	0,6	0,6	0,4	0,04	0,18	0,06	0,04	0,03
419N	0,23	0,48	0,27	-0,23	0,18	0,2	2,3	0,8	0,7	0,5	0,04	0,18	0,06	0,04	0,03
230	2,07	0,07	0,2	0,39	0,61	2,2	0	0,1	0,3	0,7	0,27	0	0	0,01	0,02
231	0,14	-0,1	-0,3	-0,01	-0,02	0,1	0,2	1,6	0	0	0,04	0,02	0,2	0	0
232	-0,85	0,25	0,75	-0,05	-0,08	1,6	0,4	3,7	0	0	0,25	0,02	0,2	0	0

B: SPAD output of the modalities' contributions and squared cosines for MCA for axis 6 to 10

	Coordinates					Contributions					Squared cosines				
	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10
11Y	0,35	-0,07	0,06	-0,02	0,16	2,8	0,1	0,1	0	0,8	0,24	0,01	0,01	0	0,05
11N	-0,68	0,13	-0,12	0,05	-0,32	5,5	0,2	0,2	0	1,6	0,24	0,01	0,01	0	0,05
12Y	0,11	-0,21	-0,29	-0,14	-0,2	0,2	0,8	1,7	0,4	1	0,01	0,04	0,09	0,02	0,04
12N	-0,11	0,21	0,29	0,14	0,2	0,2	0,8	1,7	0,4	1	0,01	0,04	0,09	0,02	0,04
13Y	0,14	0,1	-0,04	0,1	0,05	0,6	0,3	0,1	0,4	0,1	0,14	0,08	0,01	0,08	0,02
13N	-1,01	-0,76	0,33	-0,76	-0,35	4,2	2,6	0,5	2,9	0,7	0,14	0,08	0,01	0,08	0,02
14Y	0,03	0,03	-0,01	0,14	-0,01	0	0	0	0,7	0	0,01	0,01	0	0,21	0
14N	-0,31	-0,32	0,14	-1,57	0,14	0,3	0,3	0,1	8,1	0,1	0,01	0,01	0	0,21	0
x15Y	0,08	0,06	-0,01	0,15	-0,02	0,2	0,1	0	0,8	0	0,03	0,01	0	0,1	0
x15N	-0,38	-0,25	0,05	-0,69	0,1	0,9	0,4	0	3,5	0,1	0,03	0,01	0	0,1	0
25Y	0,1	-0,06	-0,09	0,07	0	0,2	0,1	0,3	0,1	0	0,03	0,01	0,03	0,01	0
25N	-0,31	0,2	0,29	-0,21	0,01	0,8	0,4	0,8	0,5	0	0,03	0,01	0,03	0,01	0
28Y	0,13	-0,02	-0,15	0,01	0,03	0,4	0	0,6	0	0	0,04	0	0,05	0	0
28N	-0,28	0,03	0,33	-0,02	-0,06	0,8	0	1,4	0	0	0,04	0	0,05	0	0

B: SPAD output of the modalities' contributions and squared cosines for MCA for axis 6 to 10 (cont.)

	Coordinates					Contributions					Squared cosines				
	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10
29Y	0,02	-0,07	-0,03	-0,03	-0,26	0	0,1	0	0	2	0	0,01	0	0	0,12
29N	-0,04	0,12	0,05	0,05	0,46	0	0,2	0	0	3,6	0	0,01	0	0	0,12
210Y	-0,15	-0,18	0,09	-0,07	-0,09	0,3	0,5	0,1	0,1	0,2	0,01	0,02	0,01	0	0,01
210N	0,1	0,12	-0,06	0,05	0,06	0,2	0,3	0,1	0,1	0,1	0,01	0,02	0,01	0	0,01
211Y	-0,11	0,28	0,54	-0,29	0,05	0,1	1	4	1,2	0	0,01	0,04	0,15	0,04	0
211N	0,05	-0,14	-0,28	0,15	-0,03	0,1	0,5	2,1	0,6	0	0,01	0,04	0,15	0,04	0
212Y	0,01	0,17	0,05	0,12	0,03	0	0,6	0,1	0,4	0	0	0,04	0	0,02	0
212N	-0,02	-0,23	-0,07	-0,17	-0,04	0	0,8	0,1	0,5	0	0	0,04	0	0,02	0
213Y	0,13	0,08	-0,12	-0,05	0,04	0,3	0,1	0,3	0,1	0	0,02	0,01	0,02	0	0
213N	-0,15	-0,1	0,15	0,06	-0,05	0,4	0,2	0,4	0,1	0,1	0,02	0,01	0,02	0	0
214Y	-0,36	1,32	-0,62	0,34	-1,21	0,3	3,9	0,9	0,3	4,1	0,01	0,11	0,02	0,01	0,09
214N	0,02	-0,08	0,04	-0,02	0,08	0	0,2	0,1	0	0,3	0,01	0,11	0,02	0,01	0,09
215Y	-0,09	-0,11	0,1	-0,03	0,09	0,2	0,3	0,3	0	0,2	0,02	0,02	0,02	0	0,01
215N	0,17	0,2	-0,18	0,06	-0,16	0,4	0,5	0,5	0,1	0,4	0,02	0,02	0,02	0	0,01
216Y	-0,22	-0,14	0,26	-0,01	0,17	0,9	0,4	1,5	0	0,7	0,06	0,02	0,08	0	0,03
216N	0,26	0,16	-0,31	0,01	-0,2	1,1	0,4	1,7	0	0,8	0,06	0,02	0,08	0	0,03
217Y	0,02	-0,04	-0,03	-0,05	0,08	0	0	0	0,1	0,2	0	0	0	0,01	0,01
217N	-0,04	0,1	0,08	0,12	-0,18	0	0,1	0,1	0,2	0,4	0	0	0	0,01	0,01
218Y	0,26	-1,15	-0,68	0,14	0,98	0,2	3,9	1,5	0,1	3,6	0,01	0,11	0,04	0	0,08
218N	-0,02	0,1	0,06	-0,01	-0,09	0	0,3	0,1	0	0,3	0,01	0,11	0,04	0	0,08
219Y	-0,06	0,2	0,36	0,07	-0,02	0,1	0,7	2,2	0,1	0	0	0,03	0,09	0	0
219N	0,04	-0,15	-0,26	-0,05	0,01	0	0,5	1,6	0,1	0	0	0,03	0,09	0	0
220Y	0,08	0	-0,1	0,05	0,02	0,2	0	0,3	0,1	0	0,02	0	0,03	0,01	0
220N	-0,24	-0,02	0,31	-0,16	-0,06	0,5	0	0,9	0,3	0	0,02	0	0,03	0,01	0
221Y	0,28	0,41	0,04	0,01	0,33	0,7	1,7	0	0	1,4	0,03	0,06	0	0	0,04
222N	-0,11	-0,16	-0,02	-0,01	-0,13	0,3	0,7	0	0	0,6	0,03	0,06	0	0	0,04
222Y	-0,43	-0,17	-0,14	0,18	-0,24	2,7	0,5	0,3	0,5	1,1	0,13	0,02	0,01	0,02	0,04
222N	0,31	0,12	0,1	-0,13	0,17	1,9	0,3	0,2	0,4	0,8	0,13	0,02	0,01	0,02	0,04
223Y	0	-0,02	-0,09	0,05	-0,05	0	0	0,2	0,1	0,1	0	0	0,03	0,01	0,01
223N	-0,02	0,07	0,35	-0,18	0,18	0	0	1	0,3	0,3	0	0	0,03	0,01	0,01
224Y	0,08	-0,01	-0,03	0,15	0	0,2	0	0	0,7	0	0,02	0	0	0,07	0
224N	-0,25	0,03	0,1	-0,47	-0,01	0,5	0	0,1	2,2	0	0,02	0	0	0,07	0
225Y	0,18	-0,43	0,09	-0,1	0,15	0,3	1,9	0,1	0,1	0,3	0,01	0,07	0	0	0,01
225N	-0,07	0,17	-0,03	0,04	-0,06	0,1	0,7	0	0	0,1	0,01	0,07	0	0	0,01
226Y	0,14	-0,33	-0,38	0,44	-0,36	0,2	1	1,4	1,9	1,5	0,01	0,04	0,05	0,06	0,04
226N	-0,04	0,11	0,12	-0,14	0,11	0	0,3	0,4	0,6	0,5	0,01	0,04	0,05	0,06	0,04
227Y	-0,02	0,16	0,04	0,16	0,1	0	0,7	0	0,8	0,4	0	0,07	0	0,07	0,03
227N	0,06	-0,45	-0,11	-0,45	-0,29	0	1,9	0,1	2,2	1	0	0,07	0	0,07	0,03
228Y	-0,23	-0,02	0,18	0,05	0,02	1,2	0	0,8	0,1	0	0,09	0	0,05	0	0

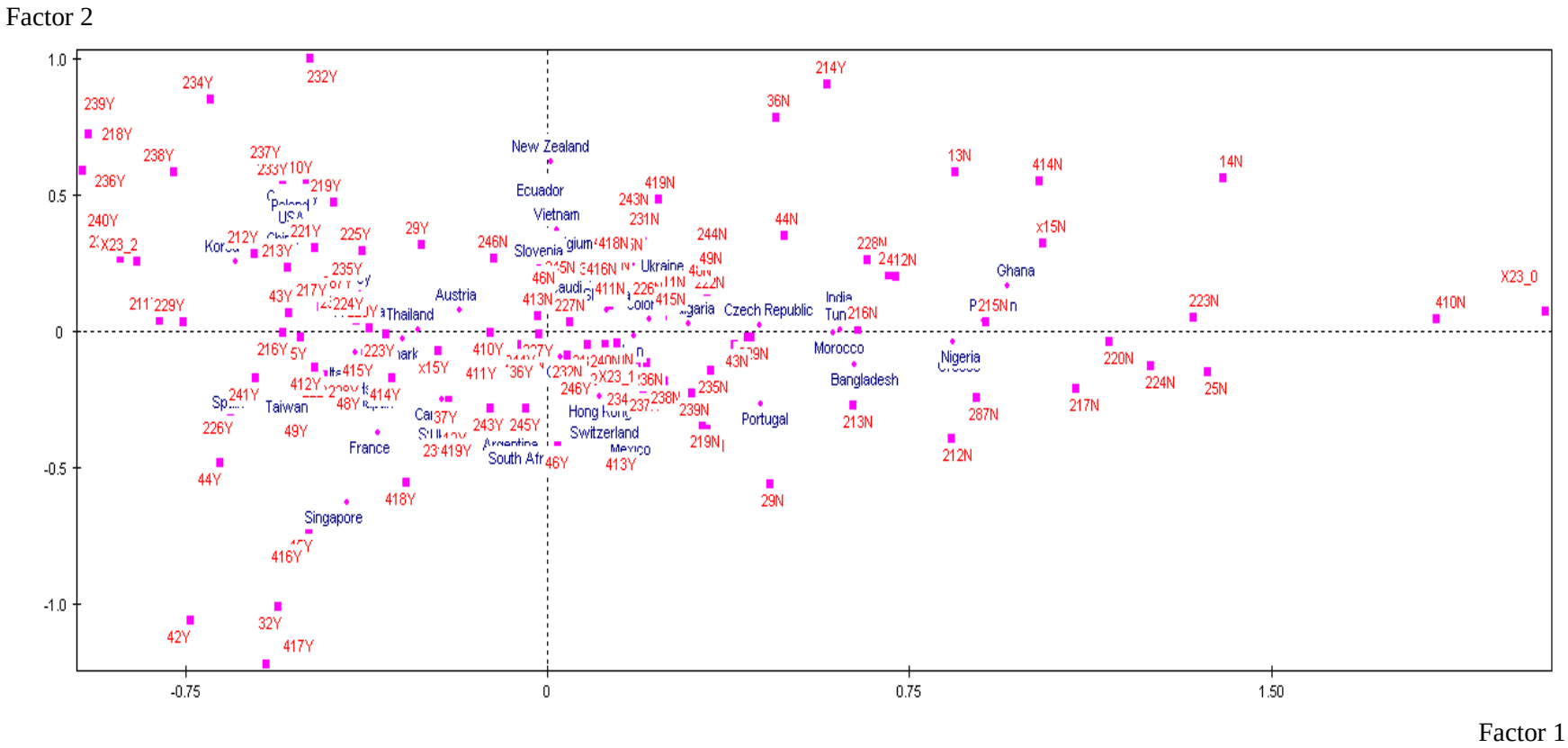
B: SPAD output of the modalities' contributions and squared cosines for MCA for axis 6 to 10 (cont.)

	Coordinates					Contributions					Squared cosines				
	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10
228N	0,38	0,02	-0,3	-0,08	-0,04	1,9	0	1,4	0,1	0	0,09	0	0,05	0	0
229Y	-0,3	0,29	-0,1	0,15	0,05	1,1	1,1	0,2	0,3	0	0,05	0,05	0,01	0,01	0
229N	0,17	-0,16	0,06	-0,09	-0,03	0,6	0,6	0,1	0,2	0	0,05	0,05	0,01	0,01	0
230Y	-0,15	0,26	0,98	-0,82	0,49	0,1	0,4	5,3	3,9	1,6	0	0,01	0,16	0,11	0,04
230N	0,02	-0,04	-0,16	0,13	-0,08	0	0,1	0,9	0,6	0,3	0	0,01	0,16	0,11	0,04
231Y	0,06	0,34	0,45	0,17	-0,33	0,1	2,1	3,8	0,6	2,4	0	0,11	0,18	0,03	0,1
231N	-0,06	-0,32	-0,41	-0,16	0,3	0,1	1,9	3,5	0,5	2,2	0	0,11	0,18	0,03	0,1
232Y	0,89	-0,91	0,68	-0,28	-0,19	2,2	2,4	1,5	0,3	0,1	0,07	0,07	0,04	0,01	0
232N	-0,08	0,08	-0,06	0,02	0,02	0,2	0,2	0,1	0	0	0,07	0,07	0,04	0,01	0
233Y	0,57	-0,01	0,62	-0,28	0,47	2	0	2,7	0,6	1,8	0,07	0	0,08	0,02	0,05
233N	-0,12	0	-0,14	0,06	-0,1	0,4	0	0,6	0,1	0,4	0,07	0	0,08	0,02	0,05
234Y	-0,17	0,55	-0,97	0,09	0,23	0,2	2	6,8	0,1	0,4	0,01	0,07	0,21	0	0,01
234N	0,04	-0,12	0,21	-0,02	-0,05	0	0,4	1,5	0	0,1	0,01	0,07	0,21	0	0,01
235Y	-0,14	0,06	0,03	0,02	0,11	0,3	0,1	0	0	0,2	0,02	0	0	0	0,01
235N	0,12	-0,05	-0,03	-0,02	-0,09	0,3	0,1	0	0	0,2	0,02	0	0	0	0,01
236Y	0,13	0,39	-0,24	-0,68	0,11	0,1	1	0,4	3,5	0,1	0	0,03	0,01	0,1	0
236N	-0,03	-0,09	0,05	0,15	-0,02	0	0,2	0,1	0,8	0	0	0,03	0,01	0,1	0
237Y	-0,06	-0,18	0,47	-0,21	-0,35	0	0,3	2,3	0,5	1,5	0	0,01	0,08	0,02	0,04
237N	0,02	0,06	-0,16	0,08	0,12	0	0,1	0,8	0,2	0,5	0	0,01	0,08	0,02	0,04
238Y	0,13	-0,24	0,55	-0,17	-0,44	0,1	0,5	2,9	0,3	2,1	0,01	0,02	0,09	0,01	0,06
238N	-0,04	0,08	-0,17	0,06	0,14	0	0,2	0,9	0,1	0,7	0,01	0,02	0,09	0,01	0,06
239Y	0,04	0,32	-0,33	-0,17	-0,18	0	0,9	1,1	0,3	0,4	0	0,03	0,04	0,01	0,01
239N	-0,01	-0,1	0,11	0,05	0,06	0	0,3	0,3	0,1	0,1	0	0,03	0,04	0,01	0,01
240Y	-0,66	1,26	-0,49	-0,46	-0,43	1,8	7,1	1,1	1	1	0,06	0,22	0,03	0,03	0,03
240N	0,09	-0,17	0,07	0,06	0,06	0,2	1	0,2	0,1	0,1	0,06	0,22	0,03	0,03	0,03
241Y	-0,2	-0,26	0,05	0,05	0,18	0,8	1,3	0,1	0,1	0,8	0,05	0,08	0	0	0,04
241N	0,24	0,3	-0,06	-0,06	-0,21	0,9	1,6	0,1	0,1	0,9	0,05	0,08	0	0	0,04
243Y	0,26	0,14	0,06	-0,07	0,03	1,4	0,5	0,1	0,1	0	0,1	0,03	0,01	0,01	0
243N	-0,38	-0,21	-0,09	0,11	-0,04	2,1	0,7	0,1	0,2	0	0,1	0,03	0,01	0,01	0
244Y	0,08	-0,03	0,05	-0,08	0,04	0,2	0	0,1	0,2	0,1	0,04	0,01	0,01	0,04	0,01
244N	-0,52	0,21	-0,28	0,5	-0,25	1,3	0,2	0,5	1,4	0,4	0,04	0,01	0,01	0,04	0,01
245Y	0,37	0,34	0,44	0,33	-0,22	1,9	1,6	2,9	1,7	0,8	0,09	0,07	0,12	0,07	0,03
245N	-0,23	-0,21	-0,27	-0,2	0,13	1,1	1	1,8	1	0,5	0,09	0,07	0,12	0,07	0,03
246Y	0,14	0,02	-0,01	-0,26	-0,06	0,5	0	0	1,8	0,1	0,04	0	0	0,12	0,01
246N	-0,25	-0,04	0,01	0,46	0,1	0,8	0	0	3,2	0,2	0,04	0	0	0,12	0,01
32Y	-0,89	0,83	0,69	0,26	0,44	3,8	3,6	2,6	0,4	1,2	0,13	0,11	0,08	0,01	0,03
32N	0,14	-0,14	-0,11	-0,04	-0,07	0,6	0,6	0,4	0,1	0,2	0,13	0,11	0,08	0,01	0,03
36Y	-0,02	0,05	0	0,08	-0,05	0	0,1	0	0,2	0,1	0	0,02	0	0,05	0,02
36N	0,14	-0,44	0,02	-0,7	0,46	0,1	0,7	0	2	1	0	0,02	0	0,05	0,02

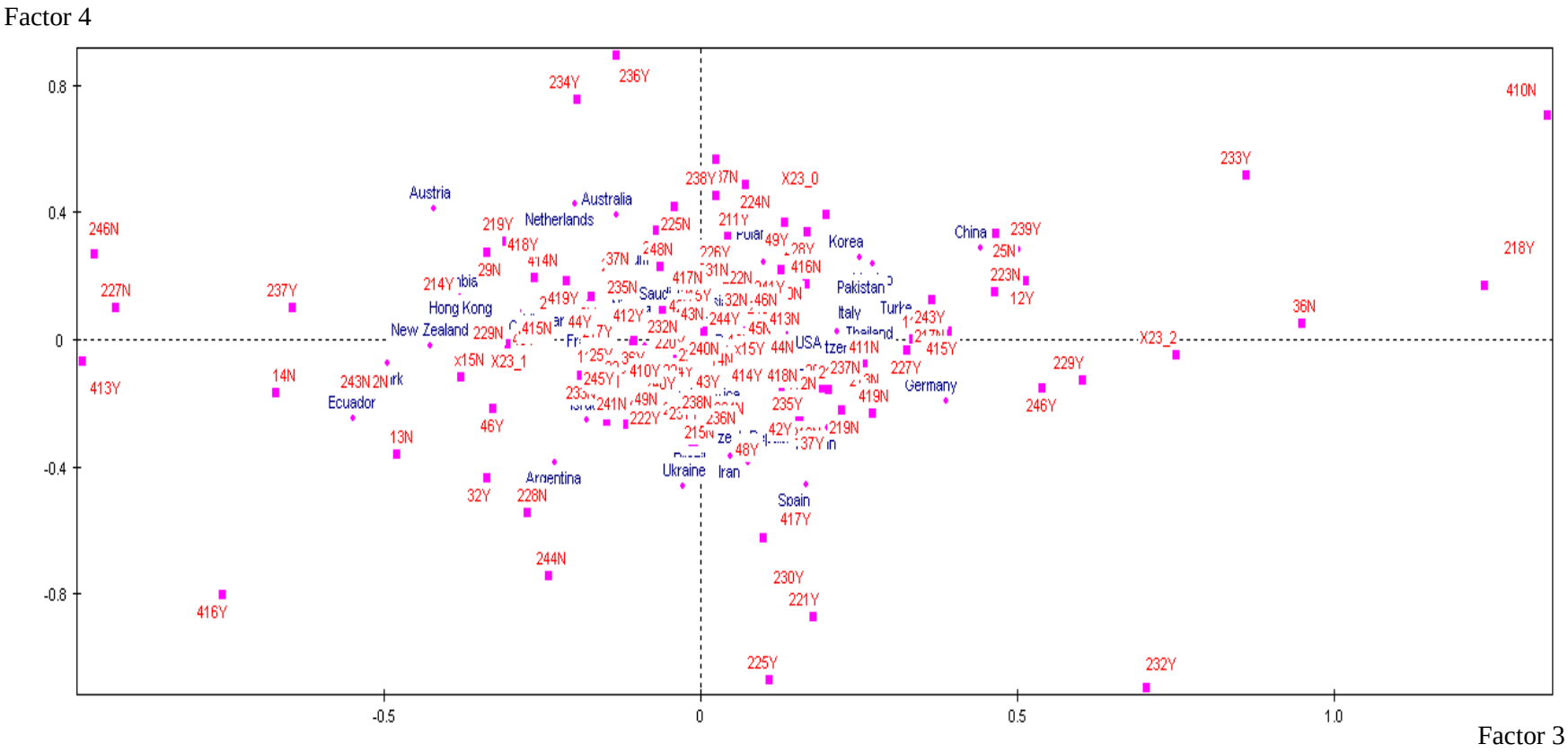
B: SPAD output of the modalities' contributions and squared cosines for MCA for axis 6 to 10 (cont.)

	Coordinates					Contributions					Squared cosines				
	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10
37Y	-0,43	-0,16	0,2	-0,27	-0,33	2,7	0,4	0,7	1,3	2,1	0,14	0,02	0,03	0,05	0,08
37N	0,31	0,11	-0,14	0,2	0,24	2	0,3	0,5	0,9	1,5	0,14	0,02	0,03	0,05	0,08
42Y	-0,14	0,43	-0,34	-0,84	-0,1	0,1	1,3	0,8	5,3	0,1	0	0,04	0,03	0,16	0
42N	0,03	-0,09	0,07	0,19	0,02	0	0,3	0,2	1,2	0	0	0,04	0,03	0,16	0
43Y	0,2	0,09	-0,41	-0,49	-0,2	0,6	0,1	2,8	4,2	0,8	0,03	0,01	0,12	0,18	0,03
43N	-0,15	-0,06	0,3	0,36	0,15	0,4	0,1	2,1	3	0,6	0,03	0,01	0,12	0,18	0,03
44Y	-0,02	0,07	0,07	-0,33	-0,08	0	0,1	0,1	1,8	0,1	0	0	0	0,08	0
44N	0,01	-0,05	-0,05	0,24	0,06	0	0,1	0,1	1,3	0,1	0	0	0	0,08	0
45Y	0,24	-0,54	0,13	0,46	0,41	0,5	2,9	0,2	2,2	2,1	0,02	0,1	0,01	0,07	0,06
45N	-0,08	0,19	-0,05	-0,16	-0,15	0,2	1	0,1	0,8	0,7	0,02	0,1	0,01	0,07	0,06
46Y	0,49	0,68	0	-0,31	0,95	2	4,1	0	0,9	10	0,08	0,15	0	0,03	0,28
46N	-0,15	-0,21	0	0,1	-0,3	0,6	1,3	0	0,3	3,2	0,08	0,15	0	0,03	0,28
48Y	-0,33	-0,42	-0,07	-0,14	0,28	1,7	2,8	0,1	0,4	1,6	0,09	0,14	0	0,02	0,06
48N	0,26	0,33	0,06	0,11	-0,22	1,3	2,2	0,1	0,3	1,3	0,09	0,14	0	0,02	0,06
49Y	-0,43	-0,02	-0,03	-0,14	0,2	2,6	0	0	0,3	0,8	0,12	0	0	0,01	0,03
49N	0,29	0,02	0,02	0,09	-0,14	1,7	0	0	0,2	0,5	0,12	0	0	0,01	0,03
410Y	0,03	0,02	0	0,01	-0,02	0	0	0	0	0	0,01	0	0	0	0
410N	-0,44	-0,27	0	-0,21	0,28	0,4	0,2	0	0,1	0,2	0,01	0	0	0	0
411Y	0,53	0,05	0,17	-0,41	-0,24	4,8	0,1	0,6	3,5	1,4	0,28	0	0,03	0,17	0,06
411N	-0,53	-0,05	-0,17	0,41	0,24	4,8	0,1	0,6	3,5	1,4	0,28	0	0,03	0,17	0,06
412Y	-0,2	-0,04	-0,15	-0,11	0,03	0,8	0	0,5	0,3	0	0,06	0	0,03	0,02	0
412N	0,3	0,05	0,23	0,16	-0,04	1,2	0	0,8	0,4	0	0,06	0	0,03	0,02	0
413Y	0,28	0,7	-0,66	-0,61	1,14	0,3	2,2	2,1	1,8	7,2	0,01	0,07	0,06	0,05	0,18
413N	-0,04	-0,1	0,09	0,08	-0,16	0	0,3	0,3	0,2	1	0,01	0,07	0,06	0,05	0,18
414Y	0,1	-0,17	0,02	0,04	-0,01	0,3	0,9	0	0,1	0	0,03	0,1	0	0,01	0
414N	-0,33	0,55	-0,07	-0,13	0,02	0,9	2,7	0	0,2	0	0,03	0,1	0	0,01	0
415Y	0,31	0,18	0,37	0,01	-0,31	1,4	0,5	2,2	0	1,8	0,07	0,02	0,09	0	0,06
415N	-0,21	-0,12	-0,25	-0,01	0,21	0,9	0,3	1,5	0	1,2	0,07	0,02	0,09	0	0,06
416Y	-0,49	-0,19	0,31	-0,35	-0,03	1,5	0,2	0,7	0,9	0	0,05	0,01	0,02	0,03	0
416N	0,11	0,04	-0,07	0,08	0,01	0,3	0,1	0,2	0,2	0	0,05	0,01	0,02	0,03	0
417Y	-0,34	0,62	-0,42	-0,14	-0,3	0,7	2,6	1,2	0,2	0,7	0,03	0,09	0,04	0	0,02
417N	0,08	-0,14	0,09	0,03	0,07	0,2	0,6	0,3	0	0,2	0,03	0,09	0,04	0	0,02
418Y	0,52	-0,54	-0,03	-0,02	-0,21	3	3,5	0	0	0,6	0,13	0,14	0	0	0,02
418N	-0,25	0,26	0,02	0,01	0,1	1,4	1,7	0	0	0,3	0,13	0,14	0	0	0,02
419Y	0,12	-0,05	-0,24	-0,18	-0,28	0,3	0	1,3	0,7	2	0,02	0	0,07	0,04	0,1
419N	-0,15	0,06	0,31	0,23	0,36	0,3	0,1	1,6	1	2,6	0,02	0	0,07	0,04	0,1
230	-0,24	0,03	-0,06	-1,24	0,32	0,1	0	0	3,8	0,3	0	0	0	0,1	0,01
231	0,15	-0,06	0,01	0,1	0	0,5	0,1	0	0,3	0	0,05	0,01	0	0,02	0
232	-0,34	0,15	-0,02	0,02	-0,06	1	0,2	0	0	0	0,04	0,01	0	0	0

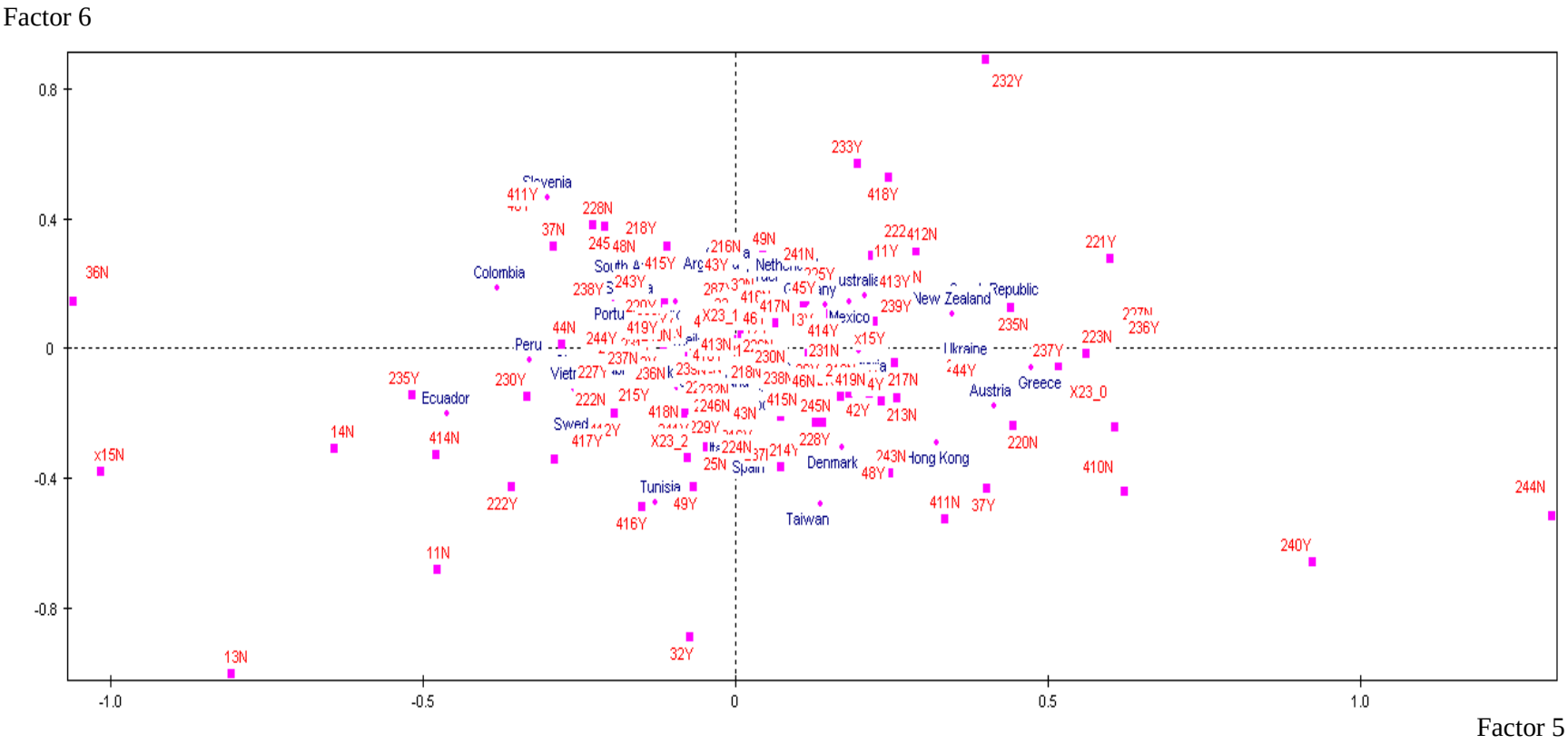
Graph A15: Graphic representation of the countries and modalities in the plan 1-2 of MCA



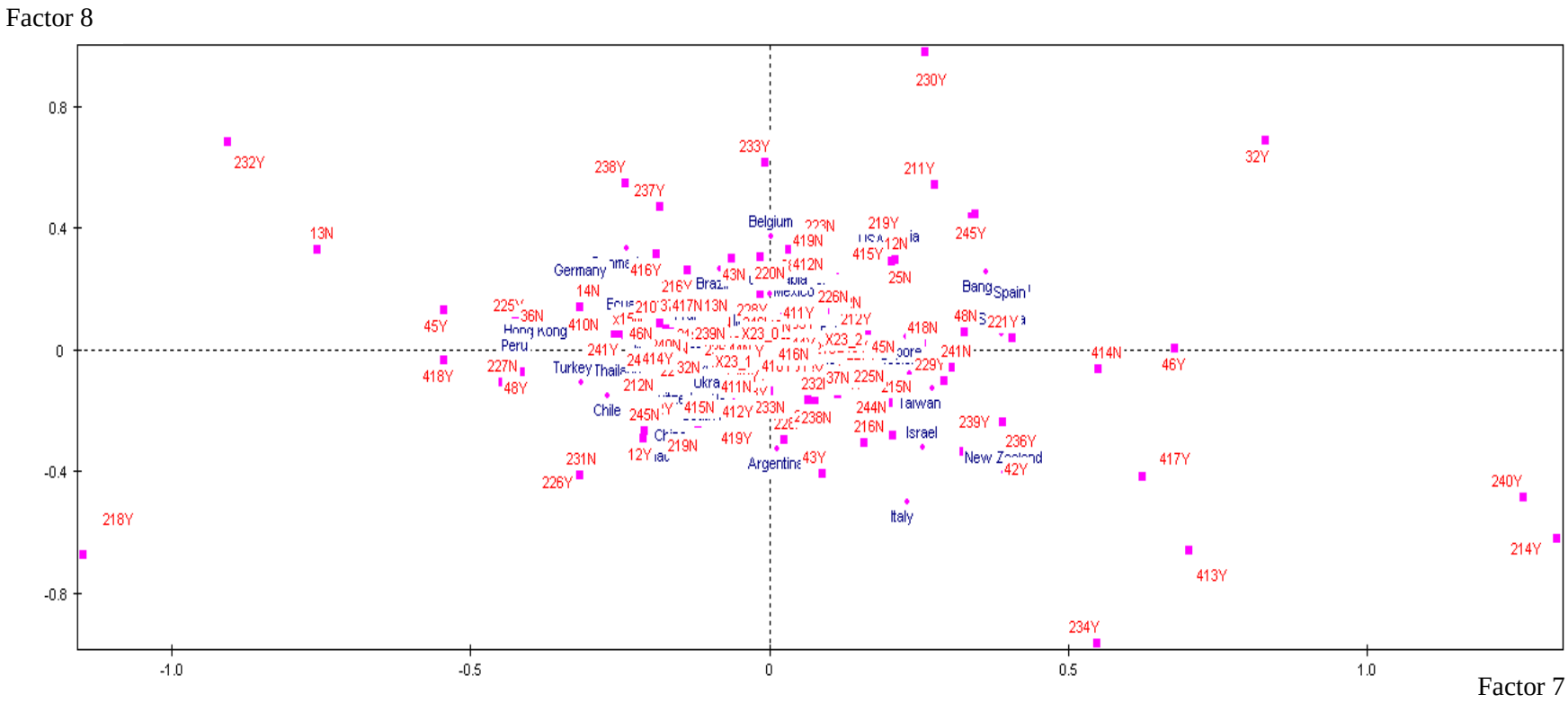
Graph A16: Graphic representation of the countries and modalities in the plan 3-4 of MCA



Graph A17: Graphic representation of the countries and modalities in the plan 5-6 of MCA



Graph A18: Graphic representation of the countries and modalities in the plan 7-8 of MCA



Graph A19: Graphic representation of the countries and modalities in the plan 9-10 of MCA

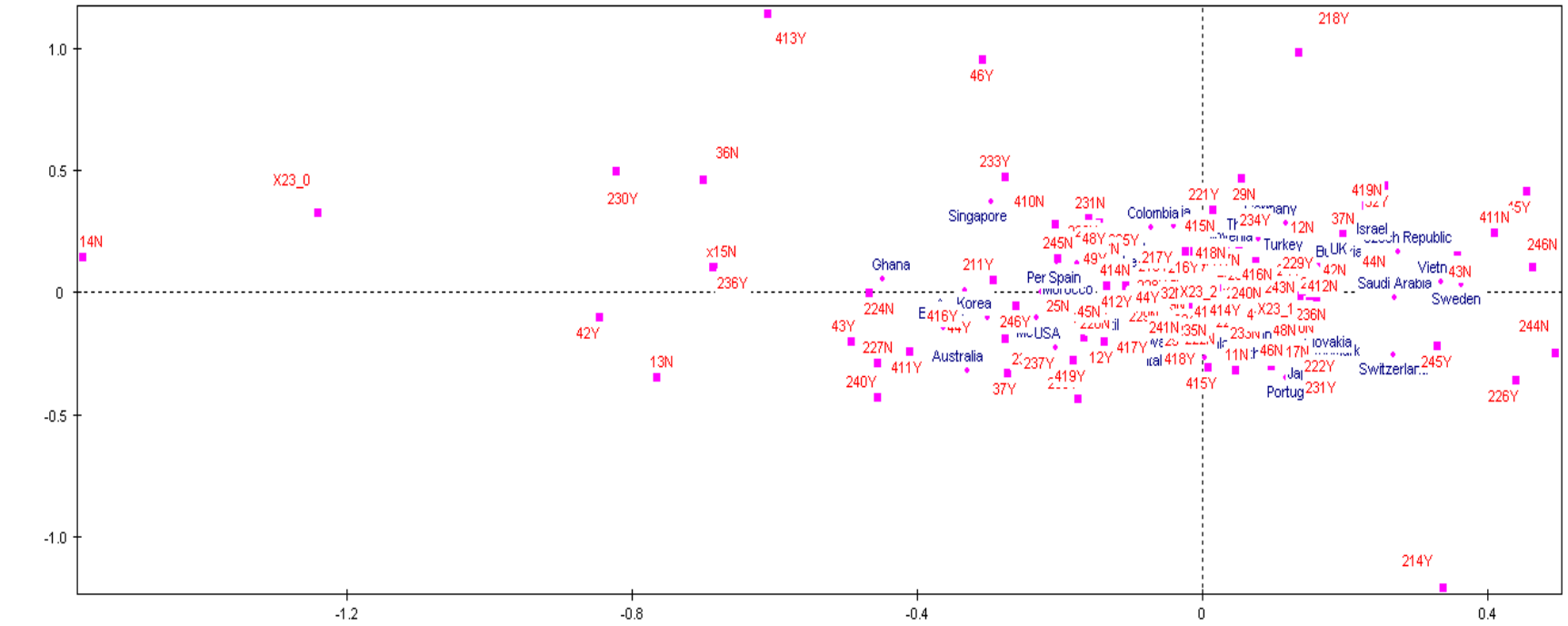


Table A11: Equality test of covariance matrices

A: Log of Determinants

Group	Post	Log determinant
1 Emerging	21	26,336
2 Advanced	21	27,275
Pooled within-group	21	43,381

B: Box's M

Box's M		795,608
F	Aprox.	1,792
	df1	231
	df2	7029,436
	Sig.	,000

Table A12: DLA SPSS output for test of equality of group means

	Wilks' lambda	F	df1	df2	Sig.
X21	,988	,570	1	48	,454
X22	,988	,603	1	48	,441
X24	,994	,291	1	48	,592
X26	,999	,036	1	48	,850
X27	,943	2,928	1	48	,094
X31	,939	3,115	1	48	,084
X33	,935	3,332	1	48	,074
X34	,990	,469	1	48	,497
X35	1,000	,024	1	48	,878
X41	,989	,541	1	48	,466
X47	,986	,660	1	48	,420
F1	,884	6,320	1	48	,015
F2	,982	,860	1	48	,358
F3	,987	,623	1	48	,434
F4	,976	1,196	1	48	,280
F5	,896	5,575	1	48	,022
F6	,960	2,004	1	48	,163
F7	,965	1,750	1	48	,192
F8	,986	,663	1	48	,420
F9	,975	1,222	1	48	,274
F10	,990	,485	1	48	,489

Table A13: DLA SPSS output for correlation between variables/factors and the discriminant function

	Function 1
F1	-,304
F5	,285
X33	,220
X31	,213
X27	,207
F6	,171
F7	,160
F9	,134
F4	,132
F2	-,112
F8	,098
X47	-,098
F3	-,095
X22	-,094
X21	,091
X41	,089
F10	-,084
X34	-,083
X24	,065
X26	-,023
X35	-,019

Table A14: DLA SPSS output for Wilks's Lambda

Test of function (s)	Wilks's Lambda	Chi-square	df	Sig.
1	,412	33,266	21	,043

Table A15: Functions at group centroids

	Function
Group	1
1 Emerging	-1,171
2 Advanced	1,171